

ANCIENT

INDIAN HISTORICAL TRADITION

ANCIENT INDIAN HISTORICAL TRADITION

BY

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FIFTY YEARS OF PROGRESS IN AUSTRALIA

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AIDAN DE BRUNE

OPPORTUNITY

*They do me wrong who say I come no more
When once I knock and fail to find you in;
For every day I stand outside your door,
And bid you wake and rise to fight and win.*

WALTER MALONE.

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INTRODUCTION

ONE hundred and forty-one years ago Australia was so little known to the white races that, when Governor Arthur Phillip landed at Sydney Cove on January 26, 1788, he did not know whether the land he had been sent out to govern and populate was a continent or a group of islands. So little was known of the great land beneath the Southern Cross by mariners who had sailed the southern seas that, voyaging from London to Port Jackson, they sailed wide round the south coast of Tasmania—ignorant of Bass Strait.

Fifty years ago, Australia might be likened to an overgrown schoolboy only just becoming aware of the strength that was his inheritance; hesitating; acknowledging yet not understanding, the latent powers of body and mind with which he was endowed; afraid to test himself; groping forward with his chief interest centred upon the minor matters immediately surrounding him.

A population of about two millions, with interests almost entirely parochial and with but little knowledge of the great world seething to the north, far on the other side of the globe—a nation in embryo, as if set apart for some special purpose by a Supreme Master who chose to guide, but not to reveal.

Yet into the parochialism that made colonial politics of supreme importance, the rivalry between the various independent colonies, came the driving power of gold. Vast areas of land hitherto unknown were found to contain enormous wealth. From the far places of the

world men and women streamed to the world-wide lure. For a time it was uncertain whether Australia would be swamped as a nation or would emerge from the test purified and sufficiently strong to absorb the foreign elements thrust upon her.

The fact that Australia came through the gold-days with strength unimpaired shows the inherent power of her people. She had learned a lesson; her eyes were lifted beyond the length of coastline which before had bounded her horizon. She realized that outside her boundaries lay countries and people from which she had indeed sprung, but with which she had only the slender thread of connection comprised in the two familiar words "Colonial Office." Dimly she realized that far over the seas lay the mother country which had given her birth. Again and again her people had wandered down to Farm Cove to watch a new Governor step from his launch, surrounded by his glittering retinue; conscious that he had come from a far land whose customs were like, yet strangely unlike, their own.

And yet the soul of Australia lay dormant. Not yet was she to awake, and with one long stretch feel in her limbs the powers that had grown, almost unconsciously, through nearly a hundred years. Not yet was she to arise in her vigour and claim and take her true place in the councils of the nations.

For the moment she was to remain quiescent, watching her children pass along the ill-paved, macadamised, or dirt-made roads winding between the low small-windowed houses of her towns and cities. In quiet adolescence she was to watch her children stumble over the raised tram-lines that disfigured her streets, and dodge under the heads of the horses drawing hackney-coaches; her men dressed in high silk hats and cut-away coats close-fitting over tight-strapped

trousers; her women floating along with mincing feet and wide-spread crinoline skirts—later to be succeeded by high-puffed sleeves and that wonderful abnormality, the bustle. She was to watch the English garrison soldiers in their red and blue uniforms, with bands loudly blaring, march through her streets, as if through those of a conquered city, and smile.

She could not dream, young mother of a nation, that before another half-century had passed she would be sending her sons to the battle-fields of Gallipoli, Flanders, and Palestine, so that by their strength and blood she could claim for herself a voice in the complex destiny of this planet. Yet on her bosom were eyes already turned to the new horizon; men who were dreaming of Australia as one nation—a nation whose voice must be listened to by the people of empires whose lands lay thousands of miles away.

Twice Australia had blooded her sons. Once on the sands of Egypt, to avenge the death of Gordon the empire-builder; once on the wide veldts of Africa, to preserve to the motherland the lands she had created from the wilds and the wealth her sons were garnering.

Beside the mighty quest of future years these were but minor adventures, almost to count as the escapades of adolescence. Australia was not yet ready. Above her the skies were blue and bright—there were no signs of the storm-clouds that, even then, were gathering over Europe to spread until they covered the whole earth. For nearly another quarter of a century Australia was to content herself, almost exclusively, with her domestic concerns. Slowly, surely, she was setting her house in order, unaware of the inferno of war lying on her road, yet guided by an all-seeing Providence to make ready for the day of awakening and trial.

Federation came, and Australia became conscious that

she had reached maturity. The long trips to England undertaken by her representatives grew from journeys of ceremony and celebration to earnest discourses on world-wide problems with the men who ruled the Empire of Greater Britain. At home she assimilated the ideas brought from abroad. In 1879 the once unknown lands, so close to her towns and cities, were conquered and now grew golden harvests. Her plains were lined with her railways; her coastal vessels sped from port to port along the huge coastline south, west, and north again from Cooktown to Derby and back to Cooktown. In her ports assembled the ships of all nations of the world. From her mountains and plains she garnered her wealth, to exchange it for the commodities brought to her doors. Australia was awakening—to what?

With the sudden mighty anger of a tornado the war-clouds burst over Europe and the motherland—thirteen thousand miles away. Yet Australia heard. It was as if she had been awaiting the signal to rise to her full strength—the lion's cub, with teeth bared and claws unsheathed.

"To the last man and the last shilling!" Across seas and soils the message flashed to the land that had given Australia birth. And well the promise was kept. Twenty thousand men forthwith! Twenty thousand men for the adventure in Europe—and that number was filled within a few hours of the moment when the recruiting booths opened their doors. Twenty thousand men stood without, clamouring for a chance to show the nations of the old world that Australia had awakened; clamouring for arms and uniforms, that they might join their brothers on the journey to the far-flung battle-fields. Later on those twenty thousand became four hundred thousand.

The Great War of 1914-18 made Australia a nation. War may be hateful; it may be unnecessary; but it is

—and from its blood-stained battle-fields new nations spring. How long, without the stress of battle, would Australia have remained self-centred and quiescent? A century might have passed before the Southern Cross nation found and realised her strength. Generations might have passed before the old-world empires of Europe and Asia would have listened to Australia's voice and understood her language.

From the war-torn fields of Europe and Asia the sons of Australia came home, conscious of the heritage that was theirs. They came back to those who, not yet having suffered the agonies of battle, had learned and suffered much. The new nation was awake! Old shibboleths had disappeared; new thoughts, new standards, new ideals had taken their place. Australia had awakened—never to sleep again.

THE PROGRESS OF GOVERNMENT IN NEW SOUTH WALES

FOR many years prior to 1878 politics in New South Wales had consisted of a series of duels between the followers of Sir Henry Parkes and those of Sir John Robertson. The general elections of 1878 resulted in a very plain intimation from the electors that they had become tired of politics and wanted government. Neither of the leaders had a sufficient majority to take office. There was no third party. Either another election had to be fought or a coalition formed. Wise councils prevailed, and the Parkes-Robertson Ministry was formed on December 21, 1878.

Twelve years earlier, in 1866, Sir Henry Parkes had guided through Parliament a Public School Act which placed the expenditure for primary education under a Council for Education. The Council was given the widest powers, including provision for granting aid, under restrictions, to denominational schools. The Act provided that in all schools instruction was to be *secular and religious*, the term "secular" being made to include general religious teaching.

The new Act of 1880, introduced to Parliament by Sir Henry Parkes, had for one of its principal objects the withdrawal of financial aid from denominational schools. This was in compliance with public feeling at the moment; in many influential quarters there had been expressed the opinion that public money should not be spent on denominational teaching. Another provision of the Act brought education under the direction of a Mini-

ter of the Crown and made school-teachers public servants. The Act, however, retained in the public schools the "secular-religious teaching" provided under the previous Act.

A Great International Exhibition was held in the Inner Domain, Sydney, during 1880, the building (the Garden Palace) having been erected specially for the occasion. The Exhibition closed on April 20, 1880, but the building was retained, and for some considerable time housed a number of the exhibits. On the night of September 22, 1882, it was totally destroyed by fire.

A conference of Australian Premiers was held at the end of the year 1880 to consider the Chinese immigration question—now becoming a matter of vital importance to Australia. For many years the gold-miners and trades-unionists had agitated against the unrestricted admission of Asiatics. The employment of Chinese on the ships of the Australian Steam Navigation Company brought the question to a head. This Company held the Australian mail contract, and, as its headquarters were in Sydney, the ships were held up on their return to their home port. The strike was supported by the trades unions in Queensland, New South Wales, Victoria, South Australia, and as far away as New Zealand. The Queensland Government also supported the strikers, intimating to the Company that if the Chinese were not discharged it would withdraw its mail subsidy. After long negotiations the Company discharged the Chinese seamen.

For the first time in the history of Australia the trades unions discovered their strength. Arrangements were immediately put in hand for the holding of an intercolonial trades-union congress. This was held in Sydney, and emphatically condemned the importation of Chinese into the country, calling upon the New South

Wales Government to restrict their immigration by the imposition of an entrance tax.

New South Wales had not been the only colony to feel the effects of Chinese immigration. Queensland suffered perhaps more severely than any of the other colonies. Yet Victoria and South Australia were almost overrun with Asiatics. Sir Henry Parkes, who had for some time agitated for a system of intercolonial congress, seized the obvious opportunity and summoned a conference of Colonial Premiers. At that conference he submitted the motion: "That in the opinion of this Conference the grave consequences that must follow the influx of large numbers of Chinese call in a special manner for the concerted action of all the colonies, both in representations to the Imperial Government and in local legislation."

Acts of Parliament restricting Chinese immigration were passed by the various Colonial Governments. New South Wales and Victoria decreed that vessels could only carry one Chinese passenger to every 100 tons burthen, and imposed an entrance fee of £10 on every Chinese immigrant; this was done despite strong opposition from the two Legislative Councils. In Victoria, Chinese were specially debarred from voting at parliamentary and municipal elections. In South Australia vessels were allowed to carry one Chinese passenger to each ten tons of shipping, the Northern Territory being excluded from that provision. Queensland increased the stringency of her restrictions on Chinese immigration in 1884. Not more than one Chinese was allowed to each 15 tons of shipping and an entrance fee of £30 was imposed. Western Australia did not impose any restrictions on the entry of Chinese into her territory until 1886; it then expressly exempted from the Exclusion Act those Chinese who entered the country under contract.

The Conference of Premiers to deal with Chinese

immigration gave Sir Henry Parkes an opportunity to bring forward a motion for the establishment of some central authority to deal with the many intercolonial questions always arising. He managed to secure some support from the Premiers—sufficient to obtain the drafting of a scheme. Then, for a time, the matter was shelved.

The Parkes Ministry came to grief at the end of 1882 over Sir John Robertson's Land Bill. Sir Alexander Stuart, formerly a protégé of Sir John Robertson, took office as Premier and Colonial Secretary. His first measure was to rectify the mistakes existing in Sir John Robertson's Land Act of 1861, which, it was claimed, had succeeded in encouraging "peacocking" by the acquisition of volunteer land orders and the selection of waterfrontages in positions that left large areas of land waterless. While the Act had succeeded in securing some honest settlers, it afforded a great opening to a large army of rogues who, taking up land on the squatters' runs, "settled" there with the sole object of compelling the squatters to buy them out at high prices.

Early in the year 1885 the news was received in Sydney of the capture of Khartoum and the death of General Gordon. A letter in the *Sydney Morning Herald* from Sir Edward Strickland suggested that Australia should offer military assistance to Great Britain. The Premier, Sir Alexander Stuart, was in New Zealand at the time, but W. B. Dalley, the acting Premier, called a special cabinet meeting, which decided that New South Wales should offer the mother country an expeditionary force of 500 infantry, supported by two batteries of field artillery armed with ten sixteen-pounders—to be landed at Suakin, on the Red Sea, within thirty days of embarkation. The offer was accepted by the British Government in regard to the troops and one battery, with the proviso that the contingent should be under the commanding officer in the Sudan.

The contingent left Sydney on March 3 and arrived at Suakin on the 29th. It was brigaded with the Guards and saw service at Tamai. This was the first military help offered to Great Britain by any of the colonies.

Sir Alexander Stuart resigned office on October 6, 1885, and George Richard Dibbs, who had held the portfolio of Colonial Treasurer under him, formed his first ministry. In the election fight of 1885 Sir Henry Parkes ousted Dibbs from the St Leonards seat. Dibbs then contested and won at Murrumbidgee. The election resulted in Sir John Robertson again securing the premiership, only to resign office through ill-health in the following February.

Sir Patrick Jennings, who had been Vice-President of the Executive Council under Sir Alexander Stuart, undertook to form a ministry. He managed to secure support in his Cabinet from both sides of the House, but the elements of his ministry were too discordant, and he had to resign. Sir Henry Parkes now stepped into power, sweeping the polls at the 1887 elections. His ministry lasted until 1889, and the most notable measures passed in this Parliament were the establishment of a Standing Committee on public works and of an independent board of railway commissioners, and the ratification of the naval agreement made with England at the Colonial Conference held in London in 1887.

The last years of Sir Henry Parkes's political career were devoted to forwarding Federation. During the Premiers' Conference of 1890 he met with a severe accident which enforced his absence from the colony's assembly. The presidency of the Federal Convention of 1891 took him frequently from his office as Premier. When he returned to his parliamentary duties, he found that his personal influence had been greatly undermined. On bringing before the New South Wales Parliament the draft bill proposed by the Federal Convention he encoun-

tered a very determined opposition led by George H. Reid. This opposition he met and defeated, but, instead of immediately attacking the opponents of the Federation Bill and forcing the measure through Parliament, he let it lie aside and gave preference to local matters. During 1891 came the general election of the colony, and although Parkes retained office in the new Parliament he only did so with the support of the newly formed Labour Party. Their support was withdrawn in the October of 1891, and Parkes resigned office and retired from politics.

George Richard Dibbs again became Premier, taking office at the head of an avowedly protectionist ministry. After carrying through the protectionist tariff that had won him the elections, he went to England. There he engaged in strengthening the financial position not only of New South Wales but of Victoria, South Australia, Tasmania, and New Zealand, for which colonies he had been asked to act. While in England he received the honour of knighthood.

When Dibbs returned to New South Wales he was the centre of one of the most sensational scenes that have ever taken place in Parliament. During one sitting of twenty-six hours and eighty-seven speeches he had to fight three censure motions. The first he defeated by thirty votes, the second by sixty-two votes, and the third by four votes. In 1893, during a financial crisis, his Government proclaimed all notes issued by local banks legal tender, thus stemming panic and restoring confidence. At the elections of 1894, fought largely on the fiscal question, Dibbs was severely defeated, and resigned.

George H. Reid, who had led the opposition against Sir Henry Parkes for some time, accepted office and formed his ministry in 1894. His main programme was retrenchment and the revision of the finances of the colony. To remove the Public Service from political

interference he created a non-political Board in which were invested all appointments and promotions. Another measure introduced by him was designed to break up the aggregation of big landed estates whose owners did not make full use of the soil. Further, he introduced a Land Tax, based mainly on the owners' own valuation of their property, but was prevented from adding to it an important proviso, borrowed from the New Zealand Act, permitting the Government to buy any estate at the owner's valuation for tax. With the support of the Labour Party he remained in office until September 1899, when W. J. Lyne, the leader of the anti-federalists, accepted the premiership.

The South African war commenced soon after Lyne assumed the premiership, and he immediately informed the Governor, Earl Beauchamp, that New South Wales was ready to despatch 1860 officers and men to assist the Empire's expeditionary forces. This offer was accepted by the British Government.

In domestic matters Lyne tried to introduce women's suffrage, but his bill was rejected by the Legislative Council. In 1900 he was knighted, and entered the Federal Parliament as a member of the Barton Ministry.

John See organized a ministry of New South Wales out of the members of the Lyne Cabinet and held the office of Premier until 1904. In that year he resigned and was succeeded by T. Waddell, much to the disgust of B. R. Wise, who had expected the reversion of the premiership. Again in 1904 there was a party re-shuffle, out of which Joseph Carruthers emerged as Premier at the head of a ministry of untried men, among whom Sir Charles Gregory Wade was Attorney-General. In October 1907, Wade re-formed the party under his own premiership. For three years he led opportunist colleagues in a difficult Parliament, dealing with industrial troubles and unwelcome social reforms with a stubborn

straight-forwardness which gained him respect from all quarters. His parliament lasted until 1910.

At the 1910 general elections the electors sent to Parliament a Labour majority under the leadership of James Sinclair Taylor McGowen—the first Labour Premier of New South Wales. McGowen took office in October 1910, and in 1911 was summoned to London to represent his State at the coronation of King George V. During his absence the leadership fell into the hands of an active subordinate, W. A. Holman; and on McGowen's return to Australia he was induced to accept the office of Colonial Treasurer, with a nominal premiership. In 1913 the Labour Ministry was completely recast, with W. A. Holman holding the premiership and McGowen as Minister for Labour.

Holman did not long succeed in retaining the loyalty of the party within and without Parliament. He quarrelled with the "machine" over the conscription question, on which he supported the Federal Prime Minister, W. M. Hughes, and in 1916 he re-formed his ministry as a "National" one.

The Holman National Ministry lasted until 1920. It was succeeded by the John Storey (Labour) ministry, which lasted eighteen months and was more remarkable for the silence of its leader than for the work accomplished. Storey died while in office and was succeeded in the premiership by James Dooley, who retained office for only two months. Sir G. W. Fuller then held the reins of government for seven hours. Dooley came back to office and held the premiership for the Labour Party until April 1922.

In that year Sir G. W. Fuller formed a coalition ministry out of the National and Country Party members returned from the 1922 general elections, and held office until June 1925, when John T. Lang, who had succeeded to the leadership of the Labour opposition, went with a

big majority to the government. The Lang Parliament was remarkable for two measures. The first was an attempt, mainly by Lang alone, to impose a tax on newspapers per copy sold. Although warned by many of his own followers that such legislation was illegal, the Premier persisted in forcing the Bill through. The newspapers combined and resisted, and within a few months obtained a decision of the High Court that the legislation was unconstitutional.

Had J. T. Lang studied Australian history he would have learned that, almost exactly one hundred years before he brought forward his newspaper legislation, Governor Darling had tried to muzzle criticism of his Government by the imposition of a similar tax. The then Chief Justice, Francis Forbes, declared a newspaper tax inconsistent with English law. The Governor accepted the advice, but two years later tried to impose a stamp duty on each copy of the newspapers sold. Again Forbes refused to certify that such legislation was legal. The incident was one of the main causes that brought about Darling's downfall and recall to England. The second noteworthy measure passed by the Lang Government was the 1926 Workers' Compensation Act which contained drastic amendments to the Act then in force, the weekly compensation payable was increased to a maximum of £5 per week to all persons under contract of service receiving less than £750 per annum. The new Act was forced through Parliament as a party measure without discussion being allowed thereon, the gag being applied after the first six clauses were read.

On October 8, 1927, the New South Wales general elections resulted in a severe defeat for the Labour government. T. R. Bavin, who had been Attorney-General in the Fuller Government, assumed office as Premier. One of the first acts of this Government was to place

the city of Sydney under three Commissioners, owing to the disrepute into which civic government had fallen. This was the city of Sydney's second experience of Commission rule, a previous abolition of the City Council having taken place some seventy-five years before.

THE PROGRESS OF GOVERNMENT IN VICTORIA

IN the colony of Victoria, at the beginning of the year 1877 the long-drawn-out fight between the Assembly and Legislative Council was drawing to a close. Sir Graham Berry and Charles Pearson had returned from England after their fruitless mission to persuade the Imperial authorities to intervene in the dispute. The home authorities had declared, in no uncertain terms, that with self-government the colonies must settle their domestic differences within their borders.

Sir Graham Berry had won the premiership (1877) after an election of notable heat. The programme which he presented to the new Parliament included some very controversial measures, particularly a land tax intended to break up large estates; a permanent provision for the payment of Members of Parliament (previously effected by short-time acts); and a drastic measure of reform of the Legislative Council. The land bill was passed with little opposition, but the second chamber put forth all its strength to defeat the Payment of Members Bill. An attempt to "tack" the obnoxious measure on to the Appropriations Bill resulted in the council refusing to pass appropriations, and leaving the Government without the money to carry on with. Then followed "Black Wednesday." Sir Graham Berry, to impress the situation forcibly on the electors, dismissed in one day a number of county court judges, police magistrates, goldfields wardens, and permanent heads of important departments

of the administration, pleading that the council had refused him the money to pay their salaries.

Berry's visit to England disturbed the Legislative Council. For five months after his return to Victoria he was in opposition, with Sir James Service in the premiership. The elections of 1880 swept him again into power, with a good majority. The Legislative Council was in a more complaisant mood, and an arrangement was come to, through intermediaries, by which the "payment for members" clauses were withdrawn from the Appropriations Bill, the Legislative Council undertaking to pass "payment for members" as a separate measure, though expressly providing that none of the clauses of the still (to them) obnoxious bill should apply to the Upper House.

During the year 1881 Sir Graham Berry was forced to appeal again to the electors. But first he had succeeded in forcing through Parliament a bill enacting some measure of reform in the Legislative Council. The term of appointment was limited, its numbers were increased from thirty-eight to forty-two, and in other ways it was modernized. But the electors were by this time tired of the continued bickerings between Sir Graham Berry and the Council, and they returned Sir B. O'Loghlen at the head of the Government. This ministry was not a strong one, but was willing to work with the Council for the general good of the country.

Two years of ordered government, broken by no political fights, followed; then the elections of 1883 brought back to Parliament Sir Graham Berry and Sir James Service, with almost equal numbers of followers. If Government was to function, a coalition was necessary, and this time Sir Graham Berry did not refuse to join in the ministry with Sir James Service. The coalition ministry was very successful, for the two leaders were able to bring into their joint cabinet the best material among their respective parties. The time of the Houses was devoted

to constructive legislation, and some of the most important measures passed were the Public Service Act, which provided for entrance into the service through examination and control by a non-political body; the Railways Management Act, which freed the construction and control of the railways from political interference; a Discipline Act, organising the colony's defences; a Mallee Lands Act, throwing open to farmers millions of acres in the far north-west corner of the colony; and a Water Conservation Act, providing for the development of the Murray Valley lands by irrigation.

Sir Graham Berry and Sir James Service were growing old and weary of the political game. Perhaps the coalition, with a very large majority in Parliament, had taken the zest from the old strenuous political fights. In February 1886 they both resigned from office, leaving the government to their lieutenants, Duncan Gillies, who had held the Ministries of Public Instruction and Railways, and Alfred Deakin, who had been Solicitor-General and Minister for Public Works in the coalition.

The Gillies-Deakin ministry is unique in the history of the colony for a long period of peace and unexampled prosperity. A large and increasing revenue enabled the premier, Gillies, to pursue his favourite schemes in the expansion of the railways, tramways, wharves, and docks. Deakin, who took the portfolio of Water-supply, devoted much of his attention to irrigation in northern Victoria and especially the Murray Valley. In spite of the very large sums spent by the two leaders on their projects, the surplus revenue accumulated, in less than three years, to over £1,600,000—more than one-seventh of a year's income.

In 1890 a wave of industrial unrest swept over Australia, involving every colony. Gillies' somewhat peculiar financial system could not accommodate itself to the strain, and on November 5, 1890, he was defeated in

Parliament, and James Munro, who had acquired a great reputation as a financier through his English deals, assumed office. In spite of his reputation Munro could not meet the demands made on him, and he resigned office in 1892, accepting the succession to Sir Graham Berry as Agent-General for the colony in London.

William Shiels, who had been Attorney-General and Minister for Railways in Munro's Ministry, and who was mainly responsible for the Amending Railways' Management Bill of 1891, took over the premiership, reorganising the cabinet. His chief political achievement during his premiership was the extension of women's rights in connection with divorce. He held the office of Premier for not quite twelve months and was succeeded by J. B. Patterson, who retained the position for a year and eight months.

George Turner succeeded to office and held the Government from September 1894 until December 1899—five years of serious financial stress. During his administration there was imposed, for the first time in Victorian history, an income tax. He followed this with a Factories and Shops Act; a Credit Foncier Act, to provide cheap money for farmers; and an Old Age Pensions Act. In 1897 he journeyed to London to represent his colony at the Diamond Jubilee and the Imperial Conference. Incidentally he was given a D.C.L. degree at Oxford and an LL.D degree at Cambridge, and was also knighted.

Towards the end of 1899, Turner was defeated in the House, after leading the case of Federation, so far as his State was concerned, to a successful issue. He was succeeded by Allan McLean, who held the premiership some eleven months before Sir George succeeded in turning the tables and ousting him from office. At the first Federal Parliament elections in 1901, Turner resigned his seat in the State Parliament and contested and won the

Federal Balaclava seat. A. J. Peacock took over the leadership of the Victorian Parliament, to hold it only until June 1902, when W. H. Irvine defeated him and formed a ministry which underwent many changes during its two years' existence. Thomas Bent, a keen-witted parliamentarian, of rough and ready manners, was the mainstay of this ministry, and to him belongs the credit of defeating the great railway strike of 1903. During this strike Irvine discovered that public servants could exercise great pressure on their parliamentary representatives, and, as a temporary measure, he carried an Act disfranchising them so far as the ordinary constituencies were concerned, but giving them members of their own. In 1904 he resigned the premiership to Bent, serving under him as a private member.

The long terms of office of the Irvine-Bent Ministries came to an end on January 8, 1909, when Bent was defeated by John Murray, who retained office until 1912, when he resigned, leaving W. A. Watt to re-form the cabinet. In December 1913, Watt in turn suffered defeat, and G. A. Elmslie, with a Labour Ministry, took the premiership, to hold it only for thirteen days, when Watt again became Premier. The Watt Parliament lasted until June 1914.

In that year Sir A. J. Peacock again took over the Government, with John Murray as Chief Secretary. This ministry ruled until the end of 1917, when John Bowser formed a short-lived cabinet of four months. He then resigned the office of Premier to H. S. W. Lawson, and took the portfolios of Chief Secretary and Minister for Health.

After five years of office the Lawson Government went to the electors and was returned again to power with a good majority. Six months later the Premier re-organised his ministry, but at the end of the next month resigned the cares of the premiership to Sir A. J. Pea-

cock. Three months later the Peacock Government was defeated and G. M. Prendergast formed a Labour Ministry. This Government held office for only four months; it then resigned and was succeeded by a John Allan Government, which lasted until the elections of 1927. Again the political pendulum swung, and the Labour Party, obtaining a working majority, took office. In 1928 the Labour Party was in turn defeated and Sir William McPherson formed a ministry.

THE PROGRESS OF GOVERNMENT IN SOUTH AUSTRALIA

ON March 25, 1876, William Morgan, chief secretary in the Boucaut Ministry, resigned office, intimating to his electors that he would not contest the seat at the general elections to be held the following year. Before the elections he went to England and, while there, heard that he had been nominated and returned at the head of the poll for his old constituency. He returned to South Australia, took his seat in the Council, and was, by unanimous vote of the Chamber, made its leader during the dispute with the Colton Ministry of 1876-7. On Boucaut forming his fourth ministry, Morgan accepted the portfolio of Chief Secretary, becoming Premier when Boucaut resigned in September 1878 to take up a Supreme Court judgeship. In 1881 Morgan reconstructed his ministry, to meet defeat three months later and retire finally from politics.

John Cox Bray took over the premiership on June 24, 1881, and held office until June 1884. He was succeeded by John Colton, who held the leadership of the Government for a year, passing through Parliament during that period an Act embodying the principles of land and income taxation. In 1885, John W. Downer ousted Colton, only to make way for Thomas Playford,

who in his Parliament carried through the first Australian protective tariff.

John Alexander Cockburn became Premier of South Australia in succession to Thomas Playford in June 1889, but managed to retain office only until August 1890. During that interval, however, he passed important Acts dealing with succession duties and a progressive tax on unimproved land values. In 1890, Playford succeeded in wresting the Government from Cockburn, to hold it until June 1892, when he was defeated by F. W. Holder, who held office for a brief four months and then gave way to Sir J. W. Downer. The Downer Ministry was short-lived, retiring in June 1893 in favour of the C. C. Kingston Ministry.

Charles Cameron Kingston was an "advanced Liberal" with a wide programme of reforms, nearly all of which he succeeded in putting into effect. The principal Act that he passed in this Parliament dealt with women's suffrage. Other measures concerned factory legislation; a "progressive" tax on land, income, and inherited wealth; industrial conciliation; a protective tariff; payment of members; and the establishment of a State Bank. An excellent parliamentary draughtsman, Kingston constructed most of his own legislation, being particularly careful that the intention was clear and carried into effect. On December 1, 1899, after having been premier since 1893, he was defeated and succeeded in office by V. L. Solomon, who retained the premiership exactly seven days before handing it on to F. W. Holder, who had led a short-time ministry in 1892. In May 1901 Holder resigned, to represent a South Australian constituency in the Federal Parliament, where he became Speaker of the House of Representatives. J. G. Jenkins, who had been Chief Secretary and Minister for Health under Holder, formed a ministry which retained office until 1905, when Richard Butler took the premiership for

four months—to make way for Thomas Price, who led the first definite (long-lived) Labour Ministry in any Australian State. His Cabinet was a coalition of Liberal and Labour men. During his four years in office he was responsible for measures relating to Wages Boards, the municipalisation of the South Australian Tramways (which up to then had been under the control of private companies), and the transference of the Northern Territory to the Federal Government—which was finalised in 1910. Price died in 1909, while Premier of his State.

The very successful ministry of Price, brought to a close by his death, was followed by a reorganisation of the Cabinet under A. H. Peake, who had filled the offices of Treasurer and Attorney-General under Price. Peake carried on the Government for one month, then again re-formed the Cabinet and governed for one year. He was defeated by John Verran in 1910, but two years later succeeded in regaining the premiership. In April 1915 Crawford Vaughan, who had been Treasurer and Commissioner for Crown Lands in the Verran Ministry, took over the Government for two years; but again, in July 1917, Peake succeeded in gaining a majority and held the Government until 1920.

The general elections occurred in April 1920, and Peake was again returned to office, but resigned the premiership to Sir H. N. Barwell. In 1924 Barwell was defeated, and John Gunn formed a purely Labour Ministry. During August 1926 Gunn accepted a seat on the Federal Development and Migration Commission, resigning the premiership, which was taken over by L. L. Hill. The Hill Ministry continued in office until April 1927, when the general elections resulted in the return of the Liberals to office, under the premiership of R. L. Butler.

THE PROGRESS OF GOVERNMENT IN QUEENSLAND

ALMOST immediately that the John Douglas Ministry met Parliament after the Christmas recess of 1878 Thomas McIlwraith led a sensational attack which resulted in the defeat of the Government. McIlwraith then formed a Government, and continued to hold office until the end of 1883. The outstanding event of this Parliament was the annexation of New Guinea by the Queensland Government, against the opinions and wishes of the British Government. Queensland, with the support of the whole of Australia, succeeded in keeping a precarious hold on the southern coast facing Australia, but, through the very ingenious attitude of the Imperial Government, the north coast of the island fell into the hands of the German Empire.

Soon after the upstir caused by the Papuan affair died down McIlwraith ratified, over the head of Parliament, a contract for a direct mail service between London and Brisbane via Torres Straits. In 1883 he attempted to force through Parliament a bill for a railway from Charleville to the Gulf of Carpentaria on the land-grant principle. Samuel Griffith, who led the opposition, bitterly opposed this project, and succeeded in persuading Parliament to reject it. McIlwraith, impatient of defeat, resigned, and Griffith undertook to form a ministry.

In office, Griffith was responsible for the Payment of Members Act. During his term of office he passed many measures through Parliament—the Crown Lands Act, throwing great areas of the colony open to settlement; the Trades Union System Bills; and an Act embodying the principle of Employers' Liability. One of his greatest measures was a Local Government scheme.

At the general elections of 1888 McIlwraith boldly

challenged Griffith in his own electorate, defeating him there and in the total polls; he then formed the second McIlwraith Ministry. Almost immediately after he took office again he quarrelled with the Governor, Sir Anthony Musgrave, over the privilege of pardons. McIlwraith claimed that the privilege was really exercised by the ministry, the Governor merely acting on the advice of his responsible ministers. A man named Benjamin Kitt had been sentenced to three years' imprisonment for the theft of two pairs of boots. McIlwraith and his ministers considered the sentence vindictive, and wished the man to be pardoned. The Governor refused to accept the advice, and when the Cabinet, led by McIlwraith, pressed the matter, declared that the pardon privilege rested with him alone. McIlwraith forcibly dissented, and the Governor then offered to submit the matter to the Colonial Office. Again McIlwraith dissented, and, because the Governor would not give way, offered his resignation. This was accepted, and Boyd Morehead was commissioned to form a ministry.

Although McIlwraith had not accepted the Governor's offer to submit the question of the pardons privilege to the Colonial Office, Sir Anthony Musgrave did so on his own account. The answer received is worthy of record for its ambiguity. The Governor was informed that he was bound to obtain the advice of his ministers before taking action; that, having obtained such advice, he might follow it or not as he pleased; that in the case under review the Governor was within his rights, but "would have exercised a sounder judgment if he had subordinated his personal opinion to the advice of his ministers"—a decision almost equal to the famous "Yes-No" of Sir George Reid of a later era.

For some time McIlwraith lent his support to his former colleagues, now the Morehead Ministry, acting as a member of the cabinet without portfolio. Morehead

retained office mainly because the remaining members of the Cabinet were too jealous and distrustful of each other to permit of their combining against their leader. The Premier succeeded in keeping his difficult team together until 1889, when Sir Thomas McIlwraith—he had been knighted in 1882—quarrelled with him over the amount of money which should be spent on the Brisbane railway station, and unexpectedly came to a political agreement with his old enemy Sir Samuel Griffith. A year later the Morehead Ministry fell. Morehead's short term of office was responsible for the first Queensland Payment of Members Act, a very advanced mining regulations Act, and a "record" sitting of the Assembly, which met at 3 p.m. on Monday, October 28, and sat until 4.15 p.m. on Friday, November 1—97½ hours in all.

The Griffith-McIlwraith Ministry, which took office in August 1890, accomplished little work of note. Sir Samuel Griffith and Sir Thomas McIlwraith shared the office of Premier. For two and a half years the old antagonists succeeded in holding their coalition ministry together, then Griffith resigned, to take the office of Chief Justice of the Colony.

McIlwraith continued the ministry alone, also holding the portfolio of Secretary for Railways and Chief Secretary. He brought into his cabinet Hugh M. Nelson as Treasurer and Vice-President of the Executive Council. Nelson had been Secretary for Railways in McIlwraith's 1888 Ministry, and, after his leader's coalition with Sir Samuel Griffith, had led the opposition. During this ministry there was a financial panic in the colony and Nelson was responsible for the measures that helped to stem the crisis—chief of which were the Queensland National Bank Agreement Act and the Public Depositors' Relief Act.

In 1893 McIlwraith resigned the premiership to Nelson and took the portfolio of Chief Secretary. Later,

in 1895, he resigned office and Parliament through ill-health, and went to England, where he resided until his death.

During this period there was grave industrial unrest throughout Queensland, and in 1894 there occurred a shearer's strike, which almost became an insurrection, necessitating the passing of a drastic Act for the better preservation of peace. Nelson was opposed to the separation movement which agitated for Central and Northern Queensland to be created separate states, chiefly because he feared that dismemberment would lead to another financial crisis. In 1897 he represented the colony at the Diamond Jubilee celebrations and at the Imperial Conference in London. He was knighted in 1896, and, when his ministry went out of office, in 1898, became President of the Legislative Council.

The Byrnes Ministry, which held office for only five months during 1898, was merged in the James Robert Dickson Ministry when Byrnes died, in office, in September 1898. Dickson held the premiership for fourteen months, when he was defeated by Andrew Dawson, the first Labour Premier for any state in Australia. Dawson, however, only held power for seven days. His ministry was notable for including among its members Andrew Fisher, later to become Prime Minister of the Commonwealth, and William Kidston, who later was to become a Labour Premier of Queensland.

On the defeat of Dawson, Robert Philp—a clear-thinking Conservative—took the premiership and held office for four years, when he was defeated on certain financial proposals. In September 1903 Arthur Morgan accepted the leadership of a coalition of labour members and seceders from Philp's party, and carried on the Government through two of the most critical years of the State's history. In January 1906 William Kidston, having established his reputation as

Treasurer and party leader, took the premiership from Morgan and formed the second Labour Ministry in Queensland. Kidston's ministry lasted twenty-two months. He led his party to victory during the 1907 general elections, but quarrelled with it the following November and resigned office. During February 1908, he returned to office as Premier, Chief Secretary, and Vice-President of the Executive Council, and in 1909 formed a coalition with the remnants of the Philp party, securing to himself the leadership of Parliament.

On February 18, 1908, Kidston formed a coalition ministry with A. H. Barlow, which held office until February 1911, when Kidston decided to retire from politics. During this Parliament the University Act of 1909 was passed; also the Mining on Private Lands Act of the same year, and the Constitutional Reforms Act, which severely limited the powers of the Legislative Council and prepared the way for its abolition in 1922. Kidston's great work for his State was the great railway scheme whereby the State was to be gridironed by two parallel lines of railway running north-south—in the west from Camooweal to Thargomindah, and in the east from Cairns to Brisbane—with four cross-bars east-west, through Cunnamulla, Roma, Longreach, and Hughenden.

In 1911, D. F. Denham, who had held the office of Secretary for Public Lands in the Kidston Ministry, took over the Premiership with the additional offices of Chief Secretary and Vice-President of the Executive Council. Denham held the reins of Government until 1915 when T. J. Ryan took over the office of Premier and formed a ministry that lasted until 1919. In this Ryan Cabinet appears the name of E. G. Theodore as Treasurer and Secretary of Public Works.

In 1919, T. J. Ryan resigned the Premiership of Queensland to enter the Federal Parliament, handing the control of the Government to Theodore. During the

Theodore Ministry the Legislative Council was abolished and has not since been restored. In 1925 Theodore resigned from the premiership and the State Parliament to contest a seat in the Federal Parliament, handing the premiership of the Labour Ministry, which had held office since 1915, to W. N. Gillies, who had served under Ryan and Theodore as Secretary for Agriculture and Stock. Gillies held the premiership for only eight months and then resigned, on accepting an appointment to the Queensland Industrial Arbitration Court. William McCormack took the premiership of a reconstructed Labour Ministry.

THE PROGRESS OF GOVERNMENT IN WESTERN AUSTRALIA

WESTERN AUSTRALIA, for reason of its acceptance of convicts and the consequent large sums of money expended in the colony by the Imperial Government, was debarred from taking advantage of the self-government Act of 1850. Twenty years later it demanded and received representative government. In the year 1878 the "Cinderella" colony decided that she was entitled to Responsible Government, and, through Sir Stephen H. Parker in the Legislative Council, voiced her desires. His motion brought the matter within the sphere of practical politics, and in 1882 the Council asked the Colonial Office on what terms autonomy would be granted. The answer partly evaded the question, pointing out that a very large proportion of the colony, particularly in the north, consisted of Crown Lands more satisfactorily administered by a colony directly under the Crown. The Office, however, added a request to be served with a full statement of the colony's affairs.

This answer was as favourable as the Council expected. It prepared exhaustive tables and financial returns and forwarded them to England. In 1884, the

Governor, Sir Frederick Napier-Broome, was informed by the Imperial authorities that Western Australia would not be refused responsible government if, at the succeeding elections for the Legislative Council, a general wish to that end was expressed by the electors.

Up to this period, while there was a distinct feeling in favour of self-government, the matter had not been definitely referred to the electors as a matter of practical politics. Now, with Lord Derby's despatch made public, there grew a general desire for responsible government. In 1888 public opinion had become so strong that in 1890 an enabling Act was passed, and on October 21 of that year responsible government for Western Australia was proclaimed.

John Forrest was offered the first premiership and on December 29, 1890, formed his first ministry. He held office for eleven years, resigning to contest a seat in the newly-created Federal Parliament. During his term of office notable gold discoveries were made in the colony and a great expansion of trade took place. To his strong purpose and wide outlook during this period are due the goldfields' water scheme, the Fremantle Harbour works, the development of the railway system to the mining areas, and the liberal land legislation of the colony. He was a great and consistent advocate of Federation and the East-West transcontinental railway—the latter even before Federation.

On his election to the Federal Parliament Forrest was appointed Minister for Home Affairs in the Barton Cabinet. On leaving the Western Australian Parliament he handed over the premiership to George Throssell, who had served under him as Commissioner for Crown Lands. Throssell held office for only four months, when he was deposed by George Leake, who in November 1901 gave way to A. E. Morgans.

Morgans held office for a bare month, when Leake

succeeded in defeating him. Leake in his turn held the premiership for six months and then gave place to W. H. James. In 1904, James was defeated by Henry Daglish, who headed Western Australia's first Labour Ministry. A year later Daglish, finding that he could not retain the confidence of the party "bosses," resigned, his place being taken by C. H. Rason. After the general elections in 1906 N. J. Moore accepted the office of Premier and held together an uncertain party until 1910. He was knighted in 1908.

Sir Newton Moore resigned from Parliament and office in 1910 and took over the agent-generalship of the colony in London. He handed the premiership to Frank Wilson, who managed to carry on until 1911, when a Labour Government, headed by John Scaddan, deposed him. At the 1916 elections the New Nationalist party was returned to power under Wilson's leadership. This Government had lasted eleven months when H. B. Lefroy, the leader of the old "die-hard" conservatives of the state, assumed the premiership and carried on until 1919. Lefroy resigned from politics and retired into private life in 1919. He had been a member of the Forrest and Throssell ministries of 1898 and 1901, but had not held office from those dates until offered the premiership in 1917.

When Sir H. B. Lefroy resigned the premiership it was offered to H. P. Colebatch, who formed a cabinet and undertook the Government for one month. The cabinet was then reconstructed under the premiership of Sir James Mitchell, with Colebatch as Minister for Health. This ministry lasted until 1924, when, at the elections, Philip Collier, at the head of the Labour Party, succeeded to the Government. At the general elections of 1927 Collier was again returned to power with a good majority.

THE PROGRESS OF GOVERNMENT IN TASMANIA

TASMANIA had responsible Government in 1856. In December 1878, W. L. Crowther held the office of Premier. His previous experience of ministerial rank had been in the Reibey ministry of 1876-77, when he had been minister without portfolio.

Late in the year 1879 the Crowther Ministry was defeated and William Robert Giblin formed a coalition ministry, which lasted, mainly by absorbing successive leaders of the opposition, until 1884. In that year John Adye Douglas, a Hobart lawyer, formed a ministry, and held the premiership until he resigned to become the first Agent-General for the colony. Philip O. Fysh was then commissioned to form a ministry and selected as his Minister for Lands and Works E. N. C. Braddon, who in later years took a great part in the foundation of Federation. This was the second Fysh Ministry and lasted until August 1892.

Federation was the great political question in the island colony during the year 1889, and Fysh, though he favoured Federation, allowed his Attorney-General, A. I. Clark, to take the lead in the work for this cause, while he interested himself in the more modest measure of tariff reciprocity with New South Wales. Another champion of Federation in the Fysh Ministry was Edward N. C. Braddon, later to be responsible for the much-debated "Braddon Clause" under which the Federal Government was required to pay the States three-quarters of the net revenue collected from Customs and Excise.

Henry Dobson replaced the Fysh Ministry on August 17, 1892, and became Premier, with Adye Douglas and N. E. Lewis as colleagues. He held office until April 14, 1894, when he was ousted by Braddon, who, taking the premiership, succeeded in retaining office until

1899. In that year he resigned and handed the position to Neil E. Lewis. During his term as Premier of Tasmania, Lewis was elected to the Federal Parliament and held office in the Federal Ministry while still acting as Premier of his State. After holding the dual position for four months he resigned his Federal office and remained Premier of Tasmania until April 1903, when W. B. Propsting took over the reins. John W. Evans succeeded Propsting in a re-organised ministry in 1904, and carried on the government until 1909.

Between 1909 and 1916 Tasmania had a succession of five placid governments, of which the longest lived retained office for two and a half years. In June, 1909, Sir N. E. Lewis succeeded in defeating Evans, but the ex-Federal Minister had enjoyed office for only four months when he was deposed by John Earle, who led an entirely new team of Ministers.

Earle was Premier only for seven days and then fell before that astute politician, Sir N. E. Lewis, who again assumed office as Premier—to hold it until June 1912. On that date Lewis retired from politics, leaving to A. E. Solomon, who had held the offices of Attorney-General and Mines and Education under him, the task of re-forming the cabinet and carrying on the Government. Solomon's term of office lasted until April 1914, when Earle again succeeded in capturing the Government—to hold power for two years and a week. In 1916, Sir W. H. Lee won the general elections and continued in the premiership until 1922.

At that date J. B. Hayes, who had held the office of Minister for Lands in the Lee Cabinet, assumed the premiership, with Lee as Treasurer and Minister for Agriculture. After one year another reshuffle of portfolios brought Lee to the head of a Government with a small ministry of five—two members of which held three offices each, and two of them two offices each, the remain-

ing member of the cabinet being without office. In 1923 Joseph A. Lyons formed a Labour ministry which lasted until the elections of 1928, when it was defeated.

THE PROGRESS OF AUSTRALIA TOWARDS FEDERATION

A DESIRE for Federation arose among Australians soon after Victoria was separated from the mother colony, New South Wales. The establishment of a new colony further westwards (South Australia) accentuated the desire for some central body to co-ordinate the work of the group. In 1846, Sir Charles Fitzroy, then Governor-General of New South Wales, complained to the Colonial Office of "the time that must elapse before the decision of Her Majesty's Government upon measures passed by the legislatures of these colonies can be obtained," and he suggested the establishment of "some superior functionary to whom all measures adopted by the local legislatures, affecting the general interests of the mother country, the Australian colonies, or their intercolonial trade, should be submitted by the officers administering the several Governments, before their own assent is given to them."

Replying to Governor Fitzroy, Earl Grey stated: "Some measure will also be devised for enabling the several Australian colonies to co-operate with each other in the enactment of such laws as may be necessary for regulating the interests common to those possessions collectively." Later in the same despatch he refers to "that part of the contemplated Act of Parliament which will relate to the creation of a Central Legislative Authority for the whole of the Australian colonies." The time for such "Central Legislative Authority" was not ripe. Only a few of the leading men in the several colonies favoured the idea of a central authority. The general body of pub-

lic opinion had not considered it. But the idea was firmly fixed in the minds of the Imperial authorities, for in the bill that was passed separating Victoria from the mother colony, provision was made for a general assembly on the lines laid down in the Committee of the Privy Council's report, which stated: "we commend that the General Assembly should consist of the Governor-General and of a single House, to be called the House of Delegates. The House of Delegates should be composed of not less than twenty nor more than thirty members. They should be elected by the Legislatures of the different Australian colonies."

The first mention of a Federal Parliament is made in a memorandum attached to a draft bill submitted to an intercolonial conference in January 1881. In it the following positions were assumed as not open to debate: "(1) that the time is not come for the construction of a Federal Constitution, with an Australian Federal Parliament; (2) that the time is come when a number of matters of much concern to all the colonies might be dealt with more effectually by some Federal authority than by the colonies separately; (3) that an organization which would lead men to think in the direction of Federation and accustom the public mind to Federal ideals, would be the best preparation for the foundation of Federal Government."

The sensational annexation of southern New Guinea by the McIlwraith Government of Queensland in 1883, and the Imperial Government's repudiation of it—followed by the occupation of the northern half of the island by the German Empire—brought Federation closer. Not only every colony of Australia, but New Zealand and Fiji upheld the Queensland Government's action. An intercolonial conference, which met in Sydney on November 28, 1883, decided that a Federal Australasian Council should be created, and a bill drafted by Premier

Griffith of Queensland was adopted. The bill was not a good one; the legislative powers created were very scanty; there was no executive power provided, and no control over revenue or expenditure. The proposed Council could only legislate by, and for, such separate colonies as desired it to do so in each particular case.

The political leaders in New South Wales stood aloof from the bill. Sir Henry Parkes referred to the proposed Council as a "ricketty body." Sir John Robertson and others frankly expressed suspicion of the aims of the colonies favouring the Council. On every side the bill was declared to be premature, ill-conceived, and ineffective.

The Griffith Bill was adopted by several of the colonies, but New South Wales and New Zealand stood aside from all participation in it. The last meeting, in 1899, was an expiring effort, for already the Commonwealth Bill of 1891 was in general discussion. Sir Henry Parkes's famous Tenterfield speech of October 24, 1889, was the Council's requiem. After that the road lay open for the New South Wales statesman to carry forward the agitation for real Federation.

The chief political question between the years 1889 and 1898 was the form Federation should take. While a majority of the people of the various colonies were in favour of Federation as an abstract ideal, they were jealous of their independent privileges. Federation, when it came within the realm of practical politics, had to be careful not to infringe in any way the liberty of action enjoyed by the various colonies in purely domestic affairs.

In reality Federation was not a party question, but the temper of the times was such that no question of continent-wide importance could be debated without the party aspect coming strongly to the fore. But for this, Federation would have been an accomplished fact long before 1900, and it was only when the people

took the question out of the hands of the various conflicting politicians, that finality came within view.

In 1889 Parkes, labouring under great difficulties, re-opened the question of Federation, to receive very evasive replies from the leaders in other colonies; some of them openly objected to his leadership on the question, in view of his previous action regarding the Federal Council. But the New South Wales statesman persisted, and in 1890 he succeeded in calling another Intercolonial Conference to consider ways and means of preparing a Federal Constitution. That Conference prepared the way for the holding of the first Australasian Federal Convention of 1891. The members were chosen from the Parliaments of the colonies and represented the best political intelligence of the continent.

The Convention of 1891 adopted the first draft constitution—a document which, while not accepted by the colonies, was the basis on which later Conventions worked. The details of the constitution, while debated in Convention, were the work of a Committee consisting of Samuel Griffith, afterwards Chief Justice of Australia; Edmund Barton, afterwards first Prime Minister; Inglis Clark, later a Tasmanian judge; and Charles Cameron Kingston, who became in after years a distinguished minister of the Commonwealth.

When the draft came before the Parliament of New South Wales it met with bitter opposition, although Sir Henry Parkes fought hard to have it adopted. G. H. Reid, a member of the Convention, led a strong parliamentary opposition and denounced the constitution as the work of "the great ambitious statesman of Australia." He claimed that it was not sufficiently democratic, and objected to the clauses concerning trade and finance. The feeling of opposition penetrated Parkes's cabinet, and the great leader at last came to feel that he could do no good by persevering with it. The defeat of the constitution in

New South Wales led to its defeat in other colonies, since it was generally considered that any Federation in which New South Wales did not take a part must fail. Again it appeared that the cause of Federation had been defeated. In October 1891 Parkes retired into private life, and all hope of Federation appeared to be lost. But in the Dibbs ministry that succeeded there were two men who were later to take a great part in the fight for Federation. In the 1891 elections Barton stood for East Sydney as a Federationist and joined the Dibbs Cabinet as Minister for Home Affairs and the acknowledged leader of the Federationist Party—a position which he assumed at the request of Parkes. In the following year Barton succeeded in carrying in the Assembly a pro-federation resolution; yet he found his position untenable, as "certain colleagues were always strewing tacks in my path." In 1893 he resigned office so as to have full liberty to carry on, outside the Cabinet, the campaign for the 1891 Federation Bill.

The other man who came forward as a champion of Federation, after the retirement of Parkes, was George Houston Reid. He had been a bitter opponent of the 1891 bill when brought into the New South Wales Parliament. But recognizing that Federation must eventually come, he set to work to give it as democratic an outlook as possible.

The matter now entered on a new phase. The movement was taken out of the political arena and submitted to the people. Popular leagues were formed to advance the common cause, and at a conference of the Leagues, held at Corowa, a new plan of campaign was initiated on the suggestion that the movement for Federation should come from the people; that a constitution should be drafted by a Convention elected directly by the people; that the Constitution, when drafted, should be submitted directly to the people for acceptance or rejection; and

that, if the Constitution were accepted at the Referendum by two or more colonies, it should be passed by the Imperial Parliament and become law.

Ten representatives from each colony except Queensland, whose Parliament did not pass the Enabling Bill for the election of the delegates, came to the Convention 1897-98, which prepared the Constitution of the Commonwealth of Australia. The representatives from the other colonies, except Western Australia, were elected directly by the people. The Western Australian delegates were chosen by that colony's Parliament, which feared that, if a popular vote was taken, the goldfields, where the Federation cause was very strong, would swamp the voting power of the agriculturist.

The Convention held three sessions—in Adelaide, Sydney, and Melbourne. Its task was made easier through having the draft bill of the 1891 constitution as a model, and a comparison of the two constitutions show some striking similarities and differences. Substantially the new Constitution followed that of 1891, but with a widening of scope and liberalising of powers. When the Constitution came before the British Parliament a celebrated English statesman spoke of it as "a monument of legislative competency": yet it was not the work of practised statesmen but of elected delegates of the people at large.

The title "Commonwealth" was first suggested by Sir Henry Parkes at the Constitutional Committee of the 1891 Convention. The title was at first rejected, but later, was again proposed by Alfred Deakin, a Victorian delegate, and carried in the Committee by a majority of one vote.

Again in the full Convention exception was taken to the title "Commonwealth" as having too Cromwellian a flavour, but Edmund Barton drove the word to adoption with his scholarly eloquence. Finally the Convention

adopted the title by 26 votes to 13. By the time the 1897-8 Convention was in session the title had caught the popular imagination—there being only one objector in the Convention. "Commonwealth," stated Edmund Barton, "is the grandest and most stately name by which a great association of self-governing people can be characterized."

The days from the end of 1898 to July 1900 are the most pregnant and interesting in the history of Australia. Into those eighteen months were crowded many political happenings, amid a whirl of tense excitement.

The enabling Acts, under which the delegates to the Convention of 1897-8 met, provided that when the Federation Act had been drafted it must be submitted to the people, and that, to secure adoption, stated majorities had to be obtained in certain states; in other states a bare majority was sufficient.

But after the Federation Act had been drafted, and almost immediately before the voting, the enemies of Federation introduced into the Parliament of New South Wales a bill requiring a minimum total of 120,000 votes in that State to secure the adoption of the Federation Bill. Considering the population of the colony at the time, this number was almost impossible to attain.

At this stage Reid, the then Premier of New South Wales, adopted an ambiguous attitude towards Federation. At the Convention, and in the country, he had worked for Federation; now, faced with a measure that was designed to make Federation almost unattainable, he became very indefinite. A clever politician, he understood that Federation had the favour of the people, and, for that reason if for no other, he would not oppose it; yet, faced with this demand for a total of 120,000 votes in the colony in favour of Federation, he did not object. Instead, he suggested that a minimum of 80,000 votes in favour of the measure should be required in place of

the 50,000 declared in the enabling bill. This number, while not making Federation impossible, was sufficiently high to make the passage of the bill difficult.

In support of Reid's attitude in regard to the minimum vote it can be claimed that there was in the colony a strong and influential body of opinion that certain clauses of the bill were not favourable to New South Wales, the oldest and wealthiest of the colonies. Reid and many others thought that New South Wales should contain the seat of Federal Government, although he did not go so far as to claim, with Sir W. J. Lyne, that it should be Sydney. The financial clauses did not meet with whole-hearted approval, many authorities contending that under them New South Wales would bear a disproportionate share of the cost of a Federal Administration. In one of his public speeches Reid set out in detail his objections to the Federation Bill, and then left his hearers aghast by stating that he could not "become a deserter from the cause" and would record his personal vote in favour. His attitude on this occasion has passed into history and dictionary use through the famous "Yes-No" cartoon of Sydney's *Bulletin*.

Reid's ambiguous attitude secured the rejection of the draft Federation Bill by the people of New South Wales—not because the bill failed to secure a distinct majority, but because the required number of votes—80,000—was not attained. The voting, however, must have surprised Reid, for it was very far in advance of the total voting required by the Enabling Act and only 8405 votes short of the 80,000 votes fixed by Reid's later measure.

Though Victoria, South Australia, and Tasmania had secured the votes necessary to bring Federation into existence, they considered it impolitic to move any further in the direction of Federation without New South Wales. Then arose the question: what alterations would induce

New South Wales to accept the draft Bill.² The Victorian Premier, Turner, summoned a conference of State Premiers to meet in Melbourne. At that gathering the colonies originally supporting Federation were joined by J. R. Dickson, the Queensland Premier—an earnest that five of the six colonies would now co-operate. Seven amendments to the draft Bill were prepared at this Premiers' Conference—three dealing with the financial problems; one defining that the Federal Capital should be in New South Wales, but not within one hundred miles of Sydney, and that, pending the building of the Federal Capital, the Parliament should sit in Melbourne; and the last defining the powers of the future Federal Parliaments to deal with State boundaries.

At the Second Referendum, held on June 20, 1899, New South Wales voted 107,420 for, and 82,741 against, Federation. The Victorian vote on this occasion was much larger than at the first referendum, and the "No" vote was greatly reduced. Tasmania was nearly solid in favour, only 79 "No" votes being recorded. Queensland voted almost 50-50; Western Australia did not vote or take any part in the proceedings.

The draft Federation Bill, having weathered all storms in Australia, had now to face the buffetings of the Imperial Parliament. Here only one rock threatened disaster. The draft bill conferred on the High Court of Australia exclusive jurisdiction in cases involving the interpretation of the constitution, and gave powers to the Federal Parliament to limit matters of law on which appeal might lie to the Privy Council—the highest Court of Appeal in the Empire. The English law authorities objected to this "limiting power" being conferred on the Parliament, on the grounds that the Privy Council was a bond between the various entities of the Empire and that appeal to the Privy Council secured uniformity in interpretation of law throughout the Empire on matters

of Imperial and commercial concern. They were willing to agree that the Australian High Court (unless it gave leave to appeal to the Privy Council) should be the sole interpreter of the Constitution and of the limits of the powers of the Commonwealth and the States.

After much discussion between the Australian delegates in London and the English law authorities, the matter was referred to a conference of Premiers sitting in Melbourne, and they decided that, if a choice had to be made between the "Appeal Clauses" and postponement, "the latter course would be more objectionable to Australians generally than the former." The "appeal clause" was therefore amended to suit the English law officers.

The Australian Federation Bill came before the Imperial Parliament in May 1900, under the sponsorship of Joseph Chamberlain, and by the following July had passed both Houses of the Imperial Parliament. A few days after the Act emerged from the House of Lords, and before Queen Victoria's assent had been declared to it on September 17, 1900, Western Australia, by a referendum majority vote of 44,800 to 19,691, joined her sister States in making Federation a complete entity on the Australian continent.

THE PROGRESS OF GOVERNMENT UNDER FEDERAL PARLIAMENT

EDMUND BARTON was the first Prime Minister of Australia. He had been Minister for Home Affairs in the Dibbs Ministry of New South Wales and had resigned that office to devote himself entirely to the cause of Federation. The Ministry which he formed comprised no less than five ex-premiers of States: Sir John Forrest held the office of Minister for Home Affairs, and had been a former Premier of Western Australia; Sir George Turner, the Treasurer, had been a Premier of Victoria; Sir

P. O. Fysh, who accepted the office of Postmaster-General, was ex-Premier of Tasmania; C. C. Kingston, who held the portfolio of Trade and Customs, had been a Premier of South Australia. The fifth was Sir W. J. Lyne, a former Premier of New South Wales, who took the office of Trade and Customs when Kingston resigned through disagreement with his leader regarding the somewhat drastic Arbitration Bill which he brought forward, extending Federal control over the railways of the States.

There were three parties in the first Federal Parliament. The Government, strongly protectionist, led by the Prime Minister; a strong free-trade opposition led by Reid; and the Labour Party under the leadership of John Christian Watson, a fine speaker and a sound tactician.

From the first days of the new Parliament Labour assumed a prominent position. At first, unable to take the reins of Government, it supported the legislation that fitted in with the party's declared platform—in other matters giving a benevolent neutrality, except where it saw Labour principles involved. It was the Labour Party that held Barton in office during his term as Prime Minister and passed through the Houses his policy of preventing the coloured races of Asia from coming into Australia, and of clearing the kanakas out of the Queensland cane-fields. The first measure caused some discussion with the Imperial authorities, the rulers and protectors of many coloured races. The crux was solved by the "language test" device, whereby the Inspectors were able to "test" immigrants in a language with which they were not familiar.

The first breach in the Federal Parliament happened when Cabinet declined to allow Kingston to bring in an Arbitration Bill which would have extended Federal control over the railways of the States. Kingston resigned, and Sir W. J. Lyne took over the portfolio of Trade and

Customs. Two months later Barton himself resigned in answer to a call to the High Court bench.

On September 4, 1903, Alfred Deakin, who had led his party to victory at the elections, accepted the office of Prime Minister and formed his cabinet from among his former colleagues in the Barton Ministry, substituting for Sir J. R. Dickson and Neil E. Lewis, Austin Chapman and Senator Thomas Playford. To this Parliament Labour was returned with a large access of power, having twenty-four members in a House of Representatives of seventy-five, and fifteen Senators out of thirty-six. Deakin, who led the strongest single party in the House of Representatives, could only number twenty-seven supporters, while the official opposition numbered twenty-four—the same number as that of the Labourites.

Deakin's first ministry came to grief over the same Arbitration and Conciliation Bill which had marked the decline of the Barton Ministry. Deakin refused to accept the clause giving State civil servants access to the Federal Arbitration Courts. Labour-leader Watson and his followers insisted on the inclusion of the clause, and, backed by a section of the opposition, carried their point against the Government. Deakin answered with his resignation.

Watson formed the first Labour Ministry in April 1904, and by the following August was back again on the cross-benches. His programme of legislation included the much debated Arbitration Bill, a measure to establish a tobacco monopoly to provide funds for Old Age Pensions, and one to bring State employees within the scope of the Federal Arbitration Act. The last proposal again wrecked a ministry. Deakin supported Reid in a successful attack on the Government, and in August Reid headed a coalition of his own followers and the old Deakin-Barton party. Deakin himself stood out of the coalition, and, while not assisting, did not actively oppose the Reid Government. Eleven months later Deakin with-

drew his passive support from Reid and defeated the Government, resuming the Prime Ministership with a small personal following, but with heavy backing from the Labour benches.

During the life of this Ministry Deakin succeeded in passing a strong protectionist tariff, providing preference for Great Britain. Among his other works, he slightly relaxed the restrictions on alien immigration and established old age pensions. In addition he passed a series of commercial bills affecting copyrights, trademarks, trusts, and secret commissions. He formulated military defence measures and negotiated with the British Admiralty on a local defence scheme. During 1907 he took part in the Imperial conference in London, afterwards touring Great Britain on the question of mutual fiscal preference.

With Deakin in power, entirely dependent on Labour's support, and Reid leading a disorganised opposition, Andrew Fisher, who had succeeded Watson as Labour Leader, thought the time had come when his party should carry on the work of the country. On the floor of the House he formally intimated to the Government that Labour could no longer give it support. Deakin thereupon resigned, and Fisher took the office of Prime Minister, only to find that he had to rely on Deakin and his followers for the votes necessary to avoid defeat at the hands of the Reid opposition. Labour's second attempt at Government lasted seven months.

In forming a Ministry it is possible that Fisher thought the line of cleavage between the Reid and Deakin parties was far wider than between either of those parties and his own. Under that opinion he had accepted office, determined to play his opponents one against the other; but in this he reckoned without the one-time Labour politician, Joseph Cook. Quite unexpectedly negotiations were entered upon between Deakin and Cook, and after

some hesitation Deakin decided to throw in his lot with his former enemies, whose freetrade fiscal policy had dwindled almost to an unattainable ideal.

The "fusion" was the end of the Fisher Parliament. On June 2, 1909, Deakin found himself again in office as Prime Minister, with Cook holding the portfolio of Defence and Forrest as Treasurer. But in spite of the number of free-traders in his new party and cabinet Deakin succeeded in dominating the situation, and before the general elections of 1910 he passed a measure—certainly in somewhat imperfect form—for compulsory military defence. In addition he concluded arrangements with the British Admiralty for the creation of an Australian squadron. He also established the office of High Commissioner to England.

The general elections of 1910 returned to power Fisher and a Labour Government, with a good working majority. During the three years of this Government Fisher was responsible for the transference of the Northern Territory from South Australia to the Federal Government. He also passed through Parliament the measure establishing the Commonwealth Bank. Other important measures brought forward by him were permission for the Federal Treasury to issue its own bank-notes, superseding those issued by the private banks; the imposition of a Federal Land Tax; the construction of the East-West Transcontinental Railway; and the creation of the Interstate Commission. He finalised the work which Deakin had begun for the establishment of an Australian naval squadron and the development of the military training system. At the elections held during June 1913 he was defeated at the polls by a small majority.

Immediately prior to the 1913 elections Deakin decided to retire from politics, leaving the leadership of the "fusion" in the hands of Cook. Winning the government by a very small majority, Cook formed a ministry,

but retained office for only fifteen months, when he decided to appeal to the electors. But the political pendulum swung to Fisher, who assumed office just after the commencement of the Great War. Fisher entered wholeheartedly into the work of organizing Australia on a war footing, dispatching the first contingent of Australian soldiers—which had been promised by Cook—and maintaining the Australian effort up to October 1915, when he resigned office and his seat in the Federal Parliament to take the post of High Commissioner in London.

William Morris Hughes became leader of the Federal Labour Party when Fisher resigned. For many years he had been the power behind Fisher in the Labour cabinets, holding the office of Attorney-General in Fisher's second and third ministries.

Thirteen months after he took over the Prime Ministership Hughes had to face a crisis within his party. Fisher had promised the British Government Australia's last man and last shilling. Man-power was urgently needed and Hughes proposed conscription. A section of the Labour Party followed his lead, but the great majority of the party outside parliament opposed conscription. In consequence there resulted a split in the party, and the malcontents, gaining control of the "machine," expelled the "conscriptionists."

An arrangement with the Liberal opposition in 1917 resulted in the formation of the first Nationalist Government under the Prime Ministership of Hughes, with Cook as Minister for the Navy and Forrest as Treasurer. In January 1918 Hughes led back to office a second War Ministry, which lasted nearly four years and experienced several reshuffles of offices. In its four years of life it contained four treasurers; four ministers for Trade and Customs; three members in turn held the offices of Vice-President of the Executive Council, Minister for Works,

and Home and Territories. There were three Postmasters-General and nine honorary ministers.

During the first few months of this Parliament's life the Prime Minister was away from Australia, in England and France. He attended meetings of the Imperial Cabinet and took a prominent part in the meetings of the "Big Four" and in the conferences at Versailles which resulted in the Versailles Treaty and the birth of the League of Nations.

The new Parliament met under the final stress of the Great War. During the 1918 elections the Central European Powers were foreshadowing the great offensive of the following March. The first days were lived under the shadow of the apparently irresistible German attack which again and again broke the Allies' defence yet never succeeded in demoralising them—an attack that wore itself out and resulted in the final retreat and the application for the Armistice.

The task before the new Parliament was appalling in magnitude. It had to turn the steps of a people long organised for war into the paths of peace. It had to re-organise a nation bled nearly white of its manhood and financial strength. It had to take the remnants of the 416,809 men who had been sent across the seas and trained in the arts of killing, and to blend them into a community of peace and work. It had to take those who remained of the 226,073 casualties—their wives, children, and other dependents, and shelter them from want and suffering.

And there were no precedents to guide them in this work. They could not ask for help from overseas, for in Europe the nations lay gasping for strength, hardly yet able to realise that the long nightmare of blood and horrors had passed; that before them lay the mighty task of binding up their bleeding wounds as they staggered forward on the eternal march of years to their ultimate destinies.

Within a few months of the outbreak of war, and right up to the end of the last Hughes Parliament, the great and most pressing problem was the repatriation of the returned troops. In 1918 a Commonwealth Department of Repatriation was formed under Senator E. D. Millen, entering on its formidable task with the provision for the 44,671 men who had been by then repatriated. By the end of June 1920, when practically the whole of the Australian Imperial Force had returned to Australia, all but 2037 hospital cases and 6049 men had been returned to civilian life.

It was quickly realised that there was no official knowledge to indicate what should, or should not, be done in the task of absorbing the soldiers into civil occupations. At first a wave of emotional impulse swept over the country, and the Government appeared willing to stand aside and leave the initiative to voluntary effort—such as was expressed in the New South Wales Australia Day Fund, which raised £800,000, and in similar efforts in other states. But it had to be recognised that, however great the voluntary effort, the problem was one that only a Government could tackle. This led to the appointment of a Federal War Committee, representative of all parties of the Houses of Parliament. This Committee appointed "War Councils" in each State, composed of members from the State Parliaments and the commercial, industrial, and civil interests. The Councils kept registers of all the discharged men; collected and distributed funds; found positions for men able to take employment; registered men desirous of settling on the land, and notified the various Lands Departments; formed through the States local bodies to act as auxiliaries to the Councils; and assisted men, as they settled on the land, to bring their holdings into quick reproduction. These State Councils also undertook the task of looking after dependents.

In May 1917 the Commonwealth Government passed

the Soldiers' Repatriation Fund Act, providing for a Board of Trustees from members of all Parliamentary parties, with the Prime Minister ex-officio Chairman. Yet this Act did not bring into existence any funds for the gigantic work it was to undertake, or for the work the Federal War Committee and its subordinate bodies had been successfully undertaking. It still left the necessary money to be provided by voluntary contributions.

At the Conference of Premiers and Lands Ministers in the following January, the Trustees submitted recommendations for the control of all activities—except qualifications as to land, which directly concerned the various State Governments—by the Commonwealth. They also submitted a plan of the work which should be undertaken. These were accepted by the Conference. Later the Trustees advised the Prime Minister that the Department should be administered by Commissioners.

The Australian Soldiers' Repatriation Act provided for assistance to the men, nurses, and their dependents. It gave as a definition of "Australian Soldier" any Australian who had served in the military and naval forces, provided that he or she could prove domicile in Australia. Responsibility for administration was vested in the Minister. He had, to advise him, an honorary Board of seven members; in each State an honorary Board of seven was created, to deal with the Commonwealth Board of seven members; and under the States' Boards was a network of local committees covering the Commonwealth. The Executive side of the Department was represented by a Comptroller, with a Deputy-Comptroller in each State. Again Parliament did not make adequate provision for the necessary funds; in fact the various Boards could not estimate their requirements in that direction. It was finally decided to formulate a scheme, and leave Parliament to meet the financial obligations as they fell due.

With much discussion and many disagreements a

scheme of work was at last prepared. Later the Comptroller was displaced by a Commission of three, subject to the Minister, with, in each State, a Deputy-Comptroller whose business was the superintendence of the offices established, at first in the capital cities, and later extended to the more populous centres. These offices were staffed throughout by returned soldiers.

Soon after the war ended, the Department assumed responsibility for all medical treatment, and established a number of hospitals and institutions. To care for the totally and partially injured men and women, hostels amid pleasant surroundings and properly equipped were established in the various States. Special sanatoria were arranged for tuberculous and mental cases.

The Commonwealth expenditure on Repatriation, up to the end of June 1925, amounted to £154,139,106; war pensions, £51,100,382; general benefits, £18,411,785; houses, £22,153,787; land settlement, £35,001,941; war gratuities, £27,471,211. The pensioners (soldiers and dependents) totalled 244,597, classified as follows: soldiers 72,128; wives, 50,106; children, 84,317; widows, 6453; widowed mothers, 8943; other mothers, 17,463; fathers, 3308; sisters and brothers, 872; others, 1187.

At the above mentioned date 25,721 men had completed courses of training and there were still 1387 men in training. The total cost of training amounted to £4,827,552. Employment applications numbered 246,734, the incidental cost, including sustenance payments and advances to States and municipalities being £3,406,372. For medical treatment £2,928,688 had been paid. The Commonwealth had settled 34,995 men on the land at a cost of £35,001,941.

In 1922 the General Elections for the Commonwealth Parliament were held and resulted in a win for the Government. Although on the appeal to the country Hughes

led the party, the spoils of office were not to be his. The war had passed; the sense of common danger before a powerful and aggressive foe had passed, and the old passions of politics were in the ascendant, assuming the proportions they had held in pre-war years. A new party, the Country Party, had come into being. The party held very strong affiliations with the old Liberal (now National) Party, yet was opposed to it on land policies and the question of the needs of the country districts as against the requirements of the cities and towns.

For more than half of his long reign as Prime Minister of Australia Hughes had had but a very small personal following. His strength, in Government, lay in the fact that there was not a man ready and able to dispossess him. He had ruled over Ministries composed mainly of men who before 1914 were his political opponents. Now, when an era of peace dawned and men's thoughts turned to home affairs, there were many who sought and planned the downfall of a Prime Minister who had proved somewhat arbitrary.

Into the new Parliament of 1923 came new personalities, two men especially, who were to have a great influence on the future of Parliament and the political parties. Stanley Melbourne Bruce had been elected to Parliament at a by-election in 1918 and afterwards taken into the Ministry. He had fought in the Gallipoli adventure and had been wounded. Recovering, he had been sent to France, where he had again been wounded. His election to the Flinders seat in the Federal Parliament was his first experience in politics. For three years he was a private member; then he accepted office in Hughes's Cabinet as Treasurer. Little more than thirteen months later he became Prime Minister of the 1923 Parliament.

The second man who brought a large influence to bear on the first post-war Parliament was Dr Earle Christmas Page. He had served through the war as

operating surgeon in the A.A.M.C., leaving his private practice at Grafton (New South Wales) for the purpose. In 1919 he was elected for Cowper to the Federal Parliament, and in 1920 was elected leader of the new Country Party.

A strong section of the old Liberals in the new Nationalist Party put forward Bruce as candidate for the Prime Ministership. It was doubtful if even the influential and wealthy backing which supported Bruce would have been alone sufficient to defeat Hughes; but the intervention of Dr. Page at the head of his Country Party put the issue beyond doubt. The coalition between the Country Party and the old Liberal group backing Bruce was too strong, and the young Australian soldier, with less than a year's ministerial experience, became the new Prime Minister of the Australian Commonwealth.

The Bruce-Page Government of 1923-25 was re-organised after the elections in the latter year with remarkably few changes in the Cabinet and those only of minor importance. The most important work taken in hand by this Government was the laying out and building of the Federal Capital City at Canberra.

From 1911, when the Federal Parliament had decided to call for plans for a Federal Capital, until 1923, little progress had been made towards the building of a city. On March 12, 1913, building operations had been officially initiated by the laying of foundation-stones of a "Commencement Column" by the Governor-General, Lord Denman, the Prime Minister, Andrew Fisher, and the Minister for Home Affairs, King O'Malley. In 1913-14 a general survey of the site was made, and certain areas allotted for early development. Plans were also laid for damming the Cotter River in order to provide a water-supply, and also for sewerage, electric-power supplies, and road construction. But, perhaps owing to war-time stringencies, no further steps were

taken. In 1920 opportunity was taken of the presence of the Prince of Wales in Australia to lay the foundation-stone of the Capitol. Again followed delays while an advisory committee of five engineering and architectural experts reviewed what had been done and reported on what should be the further progress in Australia's Capital.

The Bruce-Page Ministry of 1923-25 made the first progressive step towards a permanent home for the Federal Parliament. The dual control by the department of Home and Territories and that of Works was superseded in 1925 by a Commission of three members elected for a term of five years and nominally under the control of the Minister for Home and Territories, but really with very wide powers emanating direct from Parliament.

This Commission was the outcome of an agitation among members of Parliament to force on the building of the Federal Capital. In 1922 it was decided by the House of Representatives that the following Parliament should sit at Canberra. During August 1923 the first sod of the site of a provisional Parliament House was turned and the building commenced in the following January. The building was completed in May 1927 and opened with great ceremony by the Duke of York on the 9th of that month. Since then the offices of Parliament and the various administrative Departments of Government have been transferred to Canberra, mainly during the year 1928. Land within the Federal Capital is only leasehold, and on December 12, 1924, the first auction sale of city leaseholds was held, when 200 out of the 400 blocks offered for sale were disposed of. A second sale was held on May 29, 1926. Prices ranged, for business sites, from £6 to £150 per foot; for residential areas, from 10s. to £6 16s. per foot.

The last Federal Elections were held in November 1928, when the Bruce-Page Government was returned to office, though with a smaller majority.

THE PROGRESS OF AUSTRALIA THROUGH THE GREAT WAR

ON the outbreak of the great war of 1914—a war which involved nearly every country in the world—the Australian Government cabled to London an offer to place the Australian navy under the orders of the Admiralty, and to send “an expeditionary force of 20,000 men of any suggested composition to any destination desired by the Home Government.” This offer was promptly accepted. Volunteers quickly came forward, and within a few days the numbers were complete, while many thousands of volunteers were waiting for admission to other divisions which it was confidently expected would be raised.

Except a small expeditionary force sent to German New Guinea with the definite object of seizing and destroying the wireless stations established at Rabaul, Yap, and Nauru, the first troops left Australia, bound for Europe, on November 1, 1914.

While these were *en route*, a rebellion broke out in South Africa, and General Bridges, in command of the A.I.F., was ordered to proceed to the Cape. However, before he and his Australian troops could proceed to Cape Town, General Botha had gained a complete victory and Bridges’s orders were then altered again. The Australian troops were landed in Egypt, to undergo training there.

In Egypt the Australians were met by General Birdwood and his staff, and when further troops arrived from Australia and from New Zealand, the collective body was formed into “The Australian and New Zealand Army Corps”—from the initials of which the Headquarters clerks evolved the now famous “ANZAC.”

After a brief spell of fighting in repressing a small rebellion in Egypt, the Anzacs were sent on the strangely

conceived, and ill-matured expedition to Gallipoli. The landing was made at dawn on April 25, 1915, but through many mysterious delays the Turks were able to organise a strong opposition. After a few days it was seen that the object aimed at was almost impossible of achievement. Until August 6 every effort was made to consolidate the British positions and put them in order for the attack on the Turks' key-positions.

On August 6 the battle of Sari Bair was commenced—without that strengthening of the forces which the value of the movements and objectives deserved and which had been promised. From the first feint at Helles, through the battle of Lone Pine and the unexpected attacks from Ocean Beach and Suvla Bay, to the summit of Chanak Bair, the troops struggled gallantly but hopelessly on, and, although the Anzacs held and consolidated their ground, all possible hope of full success slowly vanished.

Yet Sir Ian Hamilton, who was in supreme command, would not relinquish the ground so dearly won without another attempt to force a way through the enemy to the key-positions above the Dardanelles. On August 21 began the final week's fighting which resulted in the capture of Hill 60 and the renewed knowledge that any fresh adventure must end only in disaster. Towards the end of the month it became necessary to withdraw the troops, now sadly depleted and in sore need of rest. After an interval of inaction amid the rigours of winter the evacuation of Gallipoli commenced.

The evacuation of the Gallipoli peninsula is certainly one of the most brilliant military manoeuvres ever conceived and accomplished. The scheme of withdrawal stands to the credit of Brigadier-General C. B. B. White and the execution to General Birdwood. Between December 8 and 20, some 80,000 men, 5000 horses, and 200 guns were withdrawn from Suvla and Anzac—and

without raising among the enemy a suspicion of that intention. Three weeks later the troops at Helles were withdrawn with equal success and immunity.

The Australian troops were taken back to Egypt for rest and reorganisation at the close of the year 1915, the only fighting in which they were for some time subsequently engaged being in short desert expeditions against the Senussi and other disaffected Bedouin tribes. Through the rest of the winter and the following spring preparations were made to organise the now greatly increased Australian forces for an offensive on the European western front. Australia had offered an additional nine brigades. Two new divisions were formed from the reinforcements undergoing training in Egypt and the seasoned troops from Gallipoli. A third division was in preliminary training in Australia. A complete reorganisation of the various wings of the service was made from time to time, as men became available and permitted expansion. From the Anzac Mounted Division and the Camel Battalion was evolved the Australian Mounted Division of 1917. The Australian Flying Corps came into existence. Behind the huge army of Southern Cross men there were formed, in Egypt and England, efficient training bases.

Between March and June 1916, the four infantry divisions in Egypt were transported to France, south-east of Armentieres—known as the “nursery sector.” The first attack by the Australian troops in France occurred on July 19, south of the “nursery sector,” towards Fromelles, with the object of holding on that front certain German reserves which might have been withdrawn to strengthen the opposition to the forthcoming Anglo-French attack along the Somme, where the position was becoming critical.

The Somme battle had been in progress three weeks before Australian troops, being sent against the Pozieres village, took part in it. For five weeks they fought to

gain and hold these positions, being ultimately successful, but losing some 25,000 men. During September and October the 1st Anzac Corps was moved to the Ypres salient for what practically amounted to garrison duty; and in November it was returned again to the old Somme battlefield, where the long, dreary European winter, with its wet, snow, and bitter cold, took severe toll of Australian lives.

It was not until February 1917 that there were signs of activity on the long front. Then the Australian troops on the Bapaume Road reported that Germans before them were retreating, and the British General Headquarters ordered a reconnaissance along the whole front. During the last days of February there was severe fighting. The 8th Brigade of the 5th Division (Australian) entered Bapaume on March 17 and, advancing quickly, captured Beaumetz village, lost it, and recaptured it on March 21 and the succeeding days. On March 26, Lagnicourt was taken, and Noreuil, Louveral, and Doignies on April 2. Hernies, Boursies, and Demicourt fell on April 9. A few days later the 1st Anzac Corps drew up before the new main German position—the famous Hindenburg line.

On April 9 the British command commenced an attack east of Arras, and on the 11th the 4th Australian Division was sent against Bullecourt, the new and unfamiliar "tanks" being used in place of the usual artillery preparation. Through the breakdown of the tanks the attack failed. Four days later the Germans counter-attacked and broke through the thinly-held Australian lines. A wonderfully stubborn defence by the Australian defence-posts checked the enemy and gave opportunity for a well-timed counter-attack, which drove the enemy back to their own wire, where they were almost decimated by Australian rifle and machine-gun fire.

During a second and mightier effort, commencing on May 3, the Australians were sent against Queant and

Bullecourt, on the right flank. They managed to enter the Hindenburg line, but secured only a precarious hold until, after nine days' fighting, Bullecourt was captured. On the 15th they repulsed with great slaughter a counter-attack by the Prussian Guards Division. At the end of May the 1st Anzac Corps was withdrawn for rest.

For nearly two years Australian, British, and Canadian tunnellers had been working for an attack under the Messines-Wytscharte Ridge and the German front line. The biggest of all the mines prepared for the Messines battle was at Hill 60, where continuous fighting had taken place underground. These mines were fired just before dawn on June 7, obliterating local enemy trenches. The assault was carried out with complete success and with surprisingly little loss, and the Ridge and reverse slopes were captured over their entire length. The seizure of the southern end of the Ridge and the capture of the village of Messines was carried out by the 2nd Anzac Corps with the 3rd Australian, New Zealand, and British Divisions in line. During the afternoon the 4th Australian Division passed the New Zealanders, gaining a pre-arranged objective.

The Australians first entered the Ypres battle—following some days later—on September 20, though the Australian artillery had been in support of the British since July 31. The battle of Menin Road was one of a series of hops designed to recover definitely limited strips of ground along the Ypres front. The 1st and 2nd Australian Divisions drove the Germans into Polygon Wood. On the 26th, the 4th and 5th Australian Divisions captured Polygon Wood and the outskirts of Zonnebeke village. On October 4 both Anzac Corps, with the 1st, 2nd, and 3rd Australian Divisions and the New Zealand Division in line, captured the high ground of the Broodseinde Ridge, at the moment when the enemy was preparing to attack. The German and Australian troops met in

"No-Man's" land, and the Australians completely outfought their opponents.

Still the Passchendaele Ridge was not completely in British hands, and the 2nd Australian Division made another advance on October 9. On the 12th the 3rd and 4th Divisions and the New Zealanders attacked Passchendaele, but by the end of the day were forced to abandon the ground they had won. Two further attacks were made on the 22nd and 30th by Canadian and Australian troops, and on November 6 the Canadians won Passchendaele village and the limit of the Ridge. Towards the close of the 1917 campaign three squadrons of the Australian Flying Corps made a first appearance in France. Nos. 2 and 3 Squadrons arrived during September and No. 4 in the following December.

The year 1918 was marked by two events. The first was the formation of the five Australian Divisions in France into the Australian Army Corps under the command, first, of General Birdwood, and then, on his promotion, of General Monash. The second event was the last and greatest German offensive.

This last German drive commenced on March 21 and for a time swept before it the French and British defences. Position after position, won by the expenditure of much British blood, fell again into the hands of the enemy, despite the most vigorous defence. In the many famous fights put up by the Australian troops during that period the battle of Villers Bretonneux stands out—a supreme effort.

Villers Bretonneux fell into the hands of the Germans by sudden attack on April 24. The 13th and 15th Australian Infantry Brigades delivered a counter-attack, which began at 11 p.m. and ended at dawn on the anniversary of the Anzac Landing. The ground had been but lightly reconnoitred and the chances of losing direction at night were many. The instructions to the troops

were to neglect all flanking fire from Villers Bretonneux and the woods beyond it, and to squeeze the Germans in the town between the jaws of a huge pincers of troops. The success of the movement exceeded the wildest expectations. By dawn the counter-attack had practically reached the old line north and south of Villers, thus surrounding three sides. The Germans in the town were either captured, killed, or driven out through a rapidly closing exit.

For the succeeding three months the British troops rested and recuperated, while the Australian Divisions carried out successful raiding along the Morlancourt Ridge and captured Hamel village—all movements undertaken under the command of General Monash and raising him high in the estimation of the British High Command.

The fury of the German last massed attack wore itself out before the stubborn defence of the British and Australian troops. On August 3, the Australians broke through the German defence behind Villers Bretonneux, completely demoralising the enemy. Other successes set the Germans in retreat, and by the end of August the whole German line from the Scarpe to the Somme were retiring, badly shaken, but not yet broken. On September 17, the enemy came to a temporary halt before the old Hindenburg line, but the Australians and other British troops would not be denied. The Germans were pressed back and the supposedly impregnable Hindenburg line attacked. In November the long expected request for an Armistice came from the enemy and the war in Europe was over.

When the main body of Australian troops journeyed to France (1916) they left behind them in Egypt the Australian and New Zealand Light Horse. For some months the work of this force consisted in the defence of the Canal Zone, and they saw some brisk fighting.

By January 1917 General Murray, who commanded in Egypt, had pushed forward to the borders of Palestine, the land behind them being now secure from invasion by desert tribes. On March 26 an attack was launched on Gaza, which, when on the very point of success, had to be withdrawn because of the fresh Turkish troops marching to the relief of the town. This check gave the enemy time to complete and strengthen the Gaza-Beersheba position. General Allenby led the attack on this line by a frontal attack on Beersheba, while General Chauvel planned a flank attack. The scheme proved entirely successful, and by November 6 the Turks had abandoned the position constructed with so much care, and were in full flight. Allenby forced a keen pursuit and by December 8 had captured Jerusalem. The Turks had halted a little way beyond Jerusalem, and on December 27 made an attempt to regain the city. Again repulsed, they became disorganised, and, after some minor operations, the Australians were able to push on and reach the Jordan, capturing Jericho.

Allenby's force crossed the Jordan on March 23 and by the 26th had reached the railway. Turkish and German reinforcements prevented the success of the raid, and the Australians had to be withdrawn. Another raid across the Jordan was staged for April 30, with the object of capturing the Shunet-Nimrim position; but this also failed. In the meantime Allenby was forced into idleness by the withdrawal of a number of his best troops to face the German offensive in Flanders. To replace these troops, Allenby received Indian cavalry and infantry, Jewish battalions, Armenians, Algerians, and coloured troops from the British West Indies and South Africa. With this army of mixed races he fought the famous Nablus battle, partly on the plains of Armageddon, completely outwitting and outfighting the German command. On September 19 Allenby's infantry broke through the

Turkish lines, and the cavalry commenced its famous ride around the enemy's rear. This ride was accomplished by the whole of Allenby's mounted troops—some 12,000 strong, under General Chauvel. The Australians then proceeded to roll up the enemy, inflicting dreadful slaughter. Damascus was captured on October 1—there not being, then, a Turkish army in the field.

THE PROGRESS OF RAILWAYS IN AUSTRALIA

ALTHOUGH the inception of Railways in Australia dates back to 1845, the years from 1879 onwards were those of the large growth. During 1845 a wave of railway promotions ran high in England. Among the 1263 private bills lodged with the Clerk of Parliament (London) in that year was one for the construction by a private company of the Sydney, Parramatta, Richmond, and Windsor Railway. It was to be forty miles long and the cost was estimated at approximately £500,000.

The news of the proposed London flotation was not long in reaching Sydney, and in the colony an agitation for the building of railways began. At a Public Meeting held on January 29, 1846, it was proposed to build a line from Sydney to Goulburn. Rough surveys were made by Lieutenant Woore, R.N., who reported to a meeting held on January 27, 1848. At that meeting it was decided to form the Sydney Railway Company. This Company was incorporated by Act of Parliament in 1849, but, instead of commencing with the Sydney-Goulburn Railway, it decided to turn its attention to the older project—the Sydney-Parramatta line. Charles Cowper was the first president and manager of the Tramway and Railway Company.

The first sod of the Sydney-Parramatta Railway was turned on July 3, 1850, by the daughter of the Governor,

Sir Charles Fitzroy. Pending a settlement of the gauge question, then agitating the colonial governments, it was decided to let contracts for bridges, culverts, and earth-works between Sydney and Haslam's Creek (Rookwood). This work was well in hand when the discovery of gold in New South Wales and Victoria disorganised the labour market and the contractor had to be released from his engagement.

To advance the construction of the railway, in which it was greatly interested, the Government imported five hundred navvies, and the work was at once resumed by the Company. Wages continued to leap upwards, and the Company became financially straitened. The Government, having advanced considerable sums of money—some £150,000 in all—for the construction of the line, was forced to intervene and take over the work and complete it. Three locomotives, built by Robert Stephenson and Co. of Newcastle-on-Tyne, were imported and the railway between Sydney and Parramatta Junction (afterwards called Granville) was opened on September 26, 1855. The cost ran to £565,710.

The Hunter River Railway Company was incorporated in October 1853, to build a line from Newcastle to West Maitland and beyond, and it began construction between Newcastle and Morpeth, but soon found its finances unequal to the work. Again the Government had to take over and continue. Two four-wheeled tank locomotives, constructed by William Fairbairn and Co. of Manchester, were bought. The section from Honey-suckle Point to East Maitland was opened during April 1857, with a completed length of 17 miles $8\frac{3}{4}$ chains. The second section, from Honeysuckle Point to Newcastle, was opened in March 1858.

Thus two private companies had tried to build railways in Australia, and in each case the Government, after advancing large sums, had been obliged to take over the

work and the liabilities. The Ministry now decided that for the future railways should be a State monopoly, and in 1854 an Act was passed providing for the construction of railways by the Government and appointing three Commissioners to operate them. The first Commissioner appointed was Captain Martindale. From that time construction was rapid. By 1865 there was built a total length of 143 miles, with termini in the Sydney District at Darling Harbour, Picton, Penrith, and Richmond. In the Newcastle area the railway had been extended to Singleton, with a branch from East Maitland to Morpeth. By 1875 the mileage had extended to 437 and in 1885 had grown to 1732 miles. During June 1883 a connection was established with the Victorian railway system at Albury, and in 1888 with the Queensland railway system at Wallangarra.

From the inception of the first railway construction was rapid and often on no settled plan. Many sections, later to be linked up with the great trunk lines of the colonies, were in existence, but were in many cases isolated from the cities. To construct the links so that the railways functioned as a whole was the great problem facing the Governments, for many of those links consisted of long viaducts and large bridges over difficult places.

When the Newcastle-Maitland Railway was first projected, with its extensions north, south, and westwards, it was realised that sooner or later Newcastle would have to be linked up with Sydney. In 1884 the bridging of the Hawkesbury River was commenced. The bridge was to be of seven spans of 416 feet each; the foundations of the piers of concrete, cased in steel caissons; the upper parts of the piers and abutments of masonry. The contract price was £327,000.

In building the bridge each span was assembled on Dangar Island and was floated on pontoons to its position about 4000 feet distant. The bridge was completed

and opened for traffic in 1889. It is notable for the introduction on a large scale of eye-and-pin connections in the tension members, and for the exceptional depth—120 feet below the river-bed—to which the piers had to be carried.

In 1910 the New South Wales Government Railway Commissioners abandoned the famous zigzag by which the railway descended the Blue Mountains into the Lithgow valley, and the traffic was diverted to a much easier, though longer, gradient. The ascent of the Blue Mountains from the east (which at first had been accomplished by a minor zigzag) is now made by a long easy deviation which reduced the grade from 1 in 30 to 1 in 80. Similar well-planned deviations were put in hand to replace the original steep ascent at Picton on the southern line, and at Stanwell Park on the South Coast Railway.

In 1925 the length of railway owned and worked by the New South Wales Government totalled 5656 miles. In addition there were 324½ miles of other railways, principally private lines used for the conveyance of coal and other minerals; also small lines worked by the Public Works and Defence Departments. On June 30, 1925, there were 359 miles of railway under construction, and these have been added to from year to year.

The quick growth of population in the larger towns and cities necessitated the duplication of certain tracks. In addition to this work grades have been reduced and curves obliterated where possible. The southern line is duplicated, as is also the western line to a point beyond Orange; the northern line has been doubled past Braxton and the south coast line past Wollongong. In addition, the Sydney suburban and Newcastle suburban lines have been quadrupled.

Many of the suburban lines around Sydney have been electrified, and in 1928 the government passed out

of loan funds the sum of £1,124,661 for the continuance of this work.

During 1927-28 a great move was made in the construction of the city underground railway. The first section, from Central Station to St James Station, was opened for traffic on December 20, 1926—the Illawarra traffic being then carried into the heart of the city. On September 25, 1927, the passengers from Bankstown were also taken through Central Station to St James Station. During the rush-hours of the day some thirty trains an hour pass from St. James Station to serve the Illawarra-Bankstown lines.

Much effective work has been accomplished in the difficult tunnelling and cut and cover work for the other sections of the city's underground railway. The great cut at Wynyard Square is almost completed, and during 1929 this station-junction will be built and covered in. The Town Hall Station is well under way, and the connecting tunnels in the four sections of the work are rapidly approaching completion. For this work, during December 1928, Parliament voted out of loan money some £786,194, bringing the total of expenditure to £3,683,335. New lines in the suburbs are being pushed forward. For the Regent's Park-Bankstown line the Government appropriated in December 1928 some £45,000—a sum sufficient to complete the work. For the Booyong-Ballina Railway a further sum of £51,302 has been set aside, making a total expenditure for this railway of £336,704, in spite of the original estimate for the work being but £144,232. The Tempe-East Hills Railway is to be expedited, and for this work Parliament voted £150,219. For the railway necessary to open Port Kembla to the southern line at Moss Vale £311,103 was voted. Other expenditure on city and suburban lines requires in the immediate future £57,257, while £1,812,783 has been allocated for the equipment of new lines, rolling stock, buildings, etc.

Victoria. The Victorian railways were for many years under not very successful private companies. During June 1852 a deputation waited on Governor Latrobe advocating a railway from Melbourne to Mount Alexander. The promoters asked for a loan, a grant of money towards survey expenses, a free grant of land six chains wide along the entire length of the proposed railway (100 miles), a square mile of land in each ten miles along the proposed route, and a guaranteed dividend upon subscribed capital. At the end of the resultant negotiations they obtained very excellent terms, although far less than they had asked for.

During the following year the Melbourne-Mount Alexander and Murray River Company's Act was passed through Parliament. A grant of £5000 towards the survey expenses was made by the Government, and for some considerable time formed the only assets of the Company. The first sod was turned in June 1854, but little progress was made. Finally the Government had to step in and complete construction.

The Melbourne and Hobson's Bay Railway Company was incorporated in 1853 to construct a line from Flinders Street, Melbourne, to Sandridge (Port Melbourne), the gauge to be 5ft. 3in. The Government granted the Company a strip of land 100 yards wide along the length of the line, and station sites of over 24 acres in Melbourne and over nine acres at Sandridge. This railway was opened during September 1854, being the first steam railway to operate in Australia. The company constructed a branch line between Port Melbourne and St. Kilda, which was opened on May 15, 1857.

The Geelong and Melbourne Railway Company was incorporated in 1853 with a capital of £350,000. The Government granted a strip of land 100 yards wide for

the length of the line, recesses for stations, $11\frac{1}{2}$ acres of land at Geelong for a terminus, £1000 preliminary expenses, and guaranteed a dividend of five per cent on the 17,500 shares. But the construction of this line proceeded very slowly. The Geelong to Duck Ponds section was opened in October 1856, and the line from Williamstown Junction to Geelong was ready in 1857. The Government acquired this railway in 1860.

The Melbourne and Suburban Railway Company, incorporated on November 24, 1857, built the line from Princes Bridge, Melbourne, to Chapel Street, Prahran; and from Swan Street Station, Richmond, to Hawthorn. Free grants of land were made by the Government. The section to Punt Road was opened on February 8, 1858; to Cremorne Gardens on December 12, 1859, and to Chapel Street on December 22, 1860. The Hawthorn branch was opened on October 1, 1860.

The Melbourne and Hobson's Bay and Melbourne and Suburban Companies amalgamated in 1866; subsequently the Brighton Railway Company joined the amalgamation. The title of the Company was then altered to the "Melbourne and Hobson's Bay United Railway Company," and a connection was built between the Flinders Street and Princes Bridge stations. In 1878 the Government purchased the system ($9\frac{3}{4}$ miles of double track and $6\frac{3}{4}$ miles of single track railway) for £1,320,000.

In 1856 the Government passed Acts of Parliament authorising the construction of 185 miles of railway, including lines from Melbourne to Castlemaine, Geelong to Ballarat and westward, and a branch line to Williamstown. In the following year a bill was presented in Parliament, and passed, authorising the construction of main track lines, including that to the Murray River.

At the end of the year 1865 Victoria owned $273\frac{1}{2}$ miles of railway, the termini being at Melbourne, Port

Melbourne, St. Kilda, Brighton Beach, Hawthorn, Geelong, Ballarat, and Echuca. By 1875, 615 miles of railways had been built, and in 1885 the total mileage had grown to 1672.

In 1925—some seventy years after the opening of the first railway—there were in Victoria 4491 miles of railway in public use and $180\frac{1}{4}$ miles under construction. In addition there were $61\frac{1}{2}$ miles of privately owned railways, used mainly for timber, firewood, and sand traffic.

The Melbourne Suburban Railway system in the year 1925 handled an enormous amount of business—some 156,678,519 journeys. The suburban lines are almost entirely electrified, and “Tait” cars, with sliding doors and seating accommodation for 92 persons in each car, are used on this service. The normal make-up of a suburban train is six cars, but during the off-hours of the day four-and-two car trains are used.

South Australia claims to have passed in 1847 the first Australian Railway Act of Parliament. This Act contained many of the obsolete provisions contained in the English Acts of the same period. An engine must consume its own smoke under a penalty of £5 per day; private persons could provide their own waggons and run them on the lines, etc.

The Adelaide City and Port Railway Company was floated in London during 1848. The company proposed to use the 4ft. 8½in. gauge for a line from the city to the port of Adelaide, and to construct a branch line to the north arm of the river, the South Australian Government to guarantee 5 per cent on the estimated cost of construction for ten years. However, as the Company regarded the venture more in the light of a land speculation than of a railway, and the Government would not grant the large areas of land asked for, the project fell

through. Later the Government built the railway, altering the gauge to 5ft. 3in. and allocating £50,000 out of the public funds for the purpose. This was the first Government Railway line on British soil. The cost of construction exceeded the estimate by many thousands of pounds, mainly through the labour troubles incidental to the finding of gold at that time in New South Wales and Victoria. Wages went to a great height, a labourer obtaining 20/- a day, while a man with a cart and horse was paid £12 per week.

In 1854 the South Australian Government began to construct a trunk line northward. It had previously declared a railway policy for the colony. The great trunk lines of the colony would be built on the 5ft. 3in. gauge, while the feeder lines would use the 3ft. 6in. gauge. The first section of the northern trunk line was from Adelaide to Gawler, some twenty-four miles. This section was opened on October 5, 1857.

During this period there was always at the back of the minds of the rulers of South Australia the ideal of a great trunk line from Adelaide due northwards until the northern seas were reached. The first section of this project was the construction of the overland (north-south) telegraph line between Adelaide and Darwin. This was opened in 1872. The first section of the railway that was to parallel the telegraph line—the Port Augusta-Oodnadatta Railway—was begun in 1878 and completed in 1891. The second section of the great trans-continental work was planned from Darwin to Pine Creek, in the far north-lands. In 1883 an Act was passed by Parliament authorising the construction of this section on the 3ft. 6in. gauge. The sum of £959,300 was raised for the purpose, besides a further sum of £57,000 for the construction of a jetty at Palmerston (now Darwin). Alternative tenders for the constructional work were called for, the tenders to be for European or Chinese

labour. The tenders for Chinese labour proved so much lower than those providing for white labour that they had to be accepted. At one time some 3000 Chinese were employed on the construction of the line. The railway was opened to the Adelaide River on June 1, 1888, and completed to Pine Creek by October 1, 1889.

The linking up of the South Australian railway system with the Victorian system at Serviceton marked the first through communication between colonies—trains from Melbourne being able to pass through to Adelaide without a break of gauge. In 1865 South Australia had only 68 miles of railways; in 1875 it possessed 209 miles of railways opened, and in 1885 the total mileage amounted to 1203 miles.

In 1925 the mileage of State-owned lines in South Australia was 2451 $\frac{3}{4}$, the State having lost 623 $\frac{1}{2}$ miles of railways by the handing over of the Oodnadatta-Port Augusta and the Darwin-Pine Creek (Northern Territory Railways) to the Commonwealth Government in 1911. In addition to the State Railways there are fifty miles of private lines in use. In June 1925 there were 114 miles of railways under construction in the State.

Queensland, from the inception of her railways, kept two main policies in view. First, that all construction and ownership should be by and for the Government; second, that the railways should be decentralised. Unfortunately considerations of expense, material to so young a colony, made advisable the adoption of the 3ft. 6in. gauge.

In 1863 an Act of the Queensland Parliament provided for the construction and regulation of the colony's railways. The Government almost immediately let a contract to an English firm for the construction of a line from Ipswich to the Little Liverpool Range—21 $\frac{1}{2}$ miles. The railway from Ipswich to Bigge's Camp (Grandchester) was opened in 1865; that from Rockhampton to

Westwood was opened in 1867, and the section from Grandchester to Toowoomba in the same year. It was not until eight years later (in 1875) that the short connection of $4\frac{1}{2}$ miles (Oxley Point to Roma Street) joined the capital to the railway system. Connection was made with the New South Wales Railway system at Wallangarra in 1888.

The steel bridge over the Brisbane River at Indooroopilly, on the Queensland Railway system, was destroyed by a flood in 1893. The construction of the Albert Bridge was immediately placed in hand and was completed by 1895, at a cost of £70,894. It consists of two 340-foot double spans of double-intersection hog-back girders. The piers and abutments are of faced masonry, the former standing on wrought-iron elliptical caissons filled with concrete. The centre pier is 100 feet above the bed of the river.

Between the years 1918 and 1928 Queensland made great strides in railway development. In 1925 only sixty years after the first railway was opened, there were $6114\frac{1}{2}$ miles of railway in use—the greatest mileage of any State system. In addition there were 1302 miles of privately owned railways, built mainly for the carriage of sugar-cane and coal. The policy of the Queensland Government has been to provide railways in advance of settlement, and in the year 1925 it was computed that there was a route mile of Government Railway for every 140 persons in the State.

This policy of railway before settlement has been a great factor in the development of the country, especially as the fares and freights have been kept comparatively low. The seaports as far north as Cairns are now all connected, the last section being Lilypond to Cardwell, opened in December 1924. In addition railway lines run westward from the all important seaports, thoroughly opening up the State's hinterlands.

Western Australia. The latest established colony on the Australian continent—Western Australia—did not begin railway construction until long after the eastern colonies. The first line to be built was from Lockeville to Yoganup—a distance of only 12 miles—and this was constructed in 1871 for the Western Australian Timber Company.

Another short strip of railway was built between Geraldton and Northampton for the service of the copper mines of the latter town. The gauge was 3ft. 6in. Construction began in 1874, but the line was not opened for traffic until 1879, though a small section was unofficially used after September 1877.

The most important section of railway construction undertaken in Western Australia before 1888 was the railway from Fremantle through Perth (the capital) to Guildford, linking the most populous areas and forming the nucleus of the future grand trunk lines to the north, east, and south. At the end of the year 1885 Western Australia had a total of 124 miles of railway.

Under the forceful policy of John Forrest the State made great strides in railway communication. The length of the Government-owned lines was increased from 203 miles in 1893 to 1434 miles in 1903. The 242-miles line from Albany to Beverley, which was constructed in 1889 on the land-grant principle by the West Australian Land Company, was purchased by the Government in 1896 for £1,100,000, the company handing over the whole of its properties and relinquishing its claim to about 2,700,000 acres of land.

Another long stretch, from Midland Junction to Walkaway, was constructed on the land-grant system by the Midland Railway Company of Western Australia, an English company with headquarters in London. This line is important in opening up the coastal districts towards the north, since at its north end it joins the Government Northampton-Geraldton Railway at Walkaway, and the

main Government railway system at Midland Junction at its south end, thus forming a complete link between Geraldton and Perth, the capital. The constructing Company was granted land to the extent of 12,000 acres per mile constructed, to be selected anywhere along the route of the railway within a belt extending 40 miles on each side of the line. The total grant acquired by the Midland Railway Company under these conditions was 3,316,464 acres, and some of the land is the finest grain-growing country in the western colony. The Government also helped the Company through financial difficulties which, at least once, caused a cessation of construction. The line was completed and opened for traffic on November 24, 1894. Since then the Government has on several occasions tried to purchase it, but without success.

In 1925 the mileage of Government-owned railways in Western Australia totalled 3733, and there were 826 miles of privately-owned railways in the state, the whole making a mile route of railway for every 81 of the population. On June 30, 1925, there were 138½ miles of railway under construction. Of the private lines, most of them, outside the Midland Railway Company's system, are used for the conveyance of timber and firewood.

Tasmania. In the island colony of Tasmania railway construction began in 1867 with the authorisation of a line from Launceston to Deloraine. This line, known as the Launceston and Western Railway, was built on the 5ft. 3in. gauge. It was opened on February 10, 1871. Soon afterwards the constructing company became financially involved, and the Government took over the railway.

An Act of Parliament was passed in 1869 to empower the Tasmanian Main-line Railway Company to build a line of 122 miles from Hobart to Evandale, near Launceston, where it would join the Deloraine Railway.

Owing to the heavy mountainous country over which the construction passed, it was decided to build the railway on the 3ft. 6in. gauge. From Evandale, where the two lines of railway met, it was decided to lay a third rail on the 5ft. 3in. gauge, so that trains could pass direct into Launceston. Construction of the railway was begun in 1872, and the line was opened on November 1, 1876, the cost being £1,190,000; in 1890 it was acquired by the Tasmanian Government at a cost of £1,106,500.

In 1925 the Tasmanian Government owned 673 miles of railway. In addition there were 235½ miles privately owned—a much larger proportion than in any other state of the Commonwealth. The Emu Bay Railway Company and the Mount Lyell Mining and Railway Company both handle general traffic—passenger and goods—and other private lines handle minerals and timber as well.

Commonwealth. Long before the inception of Federation the East-West Transcontinental Railway had become a question of vital importance. Sir John Forrest claimed—asserting it again and again in the early days of the Federal Parliament—that this railway, to connect Western Australia with her sister states on the east coast, was the principal inducement offered to the western State to accept Federation. He argued that the East-West Railway stood on the same basis as the concession made to New South Wales that the Federal Capital should be within the mother colony. However true the contention of the great Westralian may be, it is certain that, while the location of the Federal Capital was an obligation written into the Constitution, there is no such written record for the East-West Railway. But the Federal Parliament from its earliest days realised the disability of having one of the members of the Federation cut off from communication with

the eastern States except by a tedious sea-voyage. Further, from the first sitting of the Federal Parliament its members were continually engaged with the question of the defence of Australia, and the East-West Railway was of vital importance to any scheme of defence. If, later, Western Australia extended its coastal railway beyond Geraldton into the wild-lands of the Kimberleys, then, with the Queensland northern system in building, the northlands would be held from east and west, as if in the grip of a gigantic pair of pliers. Moreover, with the transcontinental as a base, and the east and west coastal lines spreading north, the greater part of the problem of the settlement of the central northlands would be closer to solution.

The programme of legislation formulated by the Barton Federal Ministry definitely pledged the building of the East-West Transcontinental Railway. In the Federal Parliament the Western Australian members insistently agitated that a commencement of the work should be made. In 1907 an Act was passed providing funds for the necessary surveys of the 1063 miles of route between Port Augusta, the terminus of the proposed line in South Australia, and Kalgoorlie, where the transcontinental line would join the Western Australian Railways system.

The survey was completed in March 1909 and showed the exact distance of the proposed Commonwealth Railway to be 1051½ miles, passing through some good, as well as some poor lands. In 1911 a Federal Act authorised the construction of the line, provided that Western Australia and South Australia granted the necessary land. On September 14, 1912, the first sod of the railway was turned by Lord Denman at Port Augusta, and the two ends met on the Nullarbor Plain during October 1917.

In the construction of the line no great engineering difficulties were encountered. Throughout its long length

it passes over no stream of water, and for 330 miles it travels the Nullarbor Plain in a dead-straight line, with but slight gradients. The principal difficulty was the lack of water along the route. Borings produced only water of a very poor quality, some being without commercial or human use. Tanks had to be constructed at intervals along 500 miles of the line. Yet, despite these difficulties, the construction was rapid. In one day 2 miles and 40 chains of rails were laid; in one week 14 miles and 50 chains; in four weeks 46 miles, 62 chains; and in one year 442 miles, 44 chains.

As the whole length of the railway passed over unoccupied country, the Commonwealth Railway Department was forced to provide wholly for its officials and workmen. Stores, bakeries, butcheries, water-stations, and boarding-houses (some of them large enough to house five hundred men at a time) had to be constructed and fitted, for both stationary and travelling purposes. Then, after the line was constructed and in working, arrangements had to be made, and continued, to bring to the employees stationed on the vast waste spaces the necessities of life—even water.

On this east-west railway were used the first rails rolled in Australia (they came from the mills of G. and C. Hoskins, of Eskbank, New South Wales), as well as the first rails rolled at the mills of the Broken Hill Proprietary Limited, of Newcastle, New South Wales.

During 1914 the Federal Government opened the only railway in Federal Capital Territory. It runs from Queanbeyan to Canberra, some 4 miles and 75 chains, and was built on the 4ft. 8½in. gauge.

In 1923, the Government authorised the extension of the Darwin-Katherine Railway southward to Daly Waters. This necessitated the bridging of the Katherine River, a very formidable and expensive undertaking. The bridge was completed in 1926, and tenders for the

extension of the railway were called for. It is possible that this extension will be opened during 1929.

On the southern borders of the Northern Territory the Victorian Proprietary Company have been building for the Commonwealth Government an extension of the Oodnadatta-Port Augusta Railway towards Alice Springs (a town almost exactly in the centre of Australia). The distance to be covered is 291 miles. In December 1928 the section from Oodnadatta to Rumbalara was completed, and a weekly train service has been established. To complete the work to Alice Springs will necessitate another 121 miles of construction, and this is expected to be completed by June 1929.

THE GAUGE QUESTION

EVERY year the question of the varying gauges of Australian Railways comes up for discussion. It has been recognised that at a very early date some way of obviating the constant change of gauge between the States will have to be arrived at. Numerous ingenious solutions have been propounded, but none of them of any great practicability. There seems to be no alternative to the adoption of a universal gauge for Australia and to the alteration of all State railways to comply with it.

Queensland and Western Australia build their railways on the 3ft. 6in. gauge; Victoria and South Australia adopted the 5ft. 3in. for their main trunk lines; New South Wales constructs on the 4ft. 8½in. gauge. When the Commonwealth Government entered the field of railway construction it adopted the almost universal 4ft. 8½in. gauge. Thus, except between Victoria and South Australia, it is imperative for passengers and goods to be changed from one gauge to another at border towns.

But for an error on the part of the Government of New South Wales it is probable that Australia would have

built on only one gauge. The mistake came about simply. When, in 1848, the New South Wales Government forwarded to the Home Government proposals for railways in the colony; the 4ft. 8½in. gauge was suggested and approved. But the construction of the first railway was in the hands of an Irishman who warmly advocated the Irish gauge (5ft. 3in.). The matter was referred to the English Commissioners, who decided that the question of the gauge was not worth much thought. When the question of gauge was again raised with the Colonial Office, the reply was sent to the New South Wales Government that the colony could please itself in the matter. Mr Shields, the engineer for the construction company, stuck manfully to the 5ft. 3in. gauge, and succeeded in persuading the New South Wales officials to adopt his views. By Legislative Act the 5ft. 3in. gauge was fixed for the railways of the colony, and the Governments of Victoria and South Australia were so advised. But long before the legislative Act was passed—even before the reply of the Colonial Office to the second question was received—Shields had resigned and returned to England. His successor, James Wallace, a Scot, reported to the Government in September 1852 in favour of the 4ft. 8½in. gauge. In 1853 a new Act was passed, sanctioning the narrow gauge, but neither Victoria nor South Australia was notified of this change of purpose until after they had completed their arrangements for the construction of their railways on the 5ft. 3in. gauge. These two states, on going into the cost of making the change at that stage, found the expense would be very great, and decided to continue with their original plans.

THE PROGRESS OF TRAMWAYS IN AUSTRALIA

New South Wales. Tramways in Australia are almost entirely confined within the boundaries of towns and

cities. The first tramway in New South Wales was constructed very soon after the opening of the first Railway (the Sydney-Parramatta line) and extended from Circular Quay to the Railway Station, a distance of $1\frac{3}{4}$ miles. The cars were horse-drawn, and the rails were laid on the roadway, projecting inches above the surface. So dangerous and obstructive was this tramway that in 1865 it was removed, and Sydney remained without tramway service until September 1879, when a line was laid from Hunter Street to the Railway Station, via Elizabeth Street, to carry passengers to and from the International Exhibition in the Inner Domain. The cars were double-deckers and were hauled by steam motors.

An extension of this tramway from Hunter Street to Bridge Street was opened in 1882. Meanwhile lines had been laid to Randwick in 1881; Waverley in 1881; Cleveland Street in 1881; Botany in 1882; Forest Lodge in 1882; and Glebe Point in 1882. In 1885 Sydney had $27\frac{1}{2}$ miles of tramways. Thenceforward progress slackened. By 1895 the tramway mileage had only increased to $40\frac{1}{4}$. The King Street to Ocean Street cable tramway was opened in September 1894, and the first electric tramway in Australia was built to run between Randwick and Waverley and was opened for traffic on December 9, 1890.

In Newcastle, the first tramway was opened between Perkins Street and Plattsburg in 1887, covering a distance of eight miles. Four miles of steam tramways, from East to West Maitland, were built in 1909. In the far west of the State, ten miles of steam-operated tramways were opened at Broken Hill between February 1902 and December 1912.

Victoria. The Melbourne Omnibus Company, formed in 1869, proposed, nine years after its inception, to introduce

a tramway system into the city, and changed its name to the Melbourne Tramway and Omnibus Company. In 1883 Parliament passed an act authorising the company to construct cable tramways in the streets of Melbourne and suburbs with the consent of the municipalities interested, who, however, had the option of constructing the lines themselves. The municipalities decided to exercise the option given to them, and formed a Tramway Trust of seven members from the Melbourne City Council and one member each from eleven of the surrounding municipalities. A loan of £1,650,000 was raised for the construction of lines, power-houses, etc. An Amending Act of 1892 provided that the tramways should be completed before the end of 1893 and leased to the Melbourne Tramway and Omnibus Company for a term of thirty-two years from July 1884, when liability for interest on loans began. The Company had to provide rolling-stock, equip lines and power-houses, pay licence-fees for cars, drivers, and conductors, and municipal rates. The Company had also to provide a sinking fund and interest on loan and to hand over the lines and equipment in good working order at the termination of the lease.

The first line opened was from Melbourne to Richmond, in 1885. Other lines followed at short intervals and the system of $43\frac{1}{2}$ miles of double-track cable lines, and $4\frac{1}{2}$ miles of double-track horse-drawn lines, was completed in 1891. The horse tramways were later converted to cable.

After the year 1900 the municipalities around Melbourne engaged extensively in tramway construction. The Prahran-Malvern Tramway Trust, appointed by the Municipal Councils of Prahran, Malvern, St. Kilda, Hawthorn, Kew, Camberwell, and Caulfield built and operated electric tramways 35.11 miles in length, the first section being opened on May 31, 1910. The Hawthorn Tramway Trust opened the first section of an electric line

between Princes Bridge and Power Street, Hawthorn, on April 6, 1916, and eventually operated 11.12 miles. The first section of the Melbourne, Brunswick, and Coburg tramways (7.07 miles) from Moreland Road to Bell Street was opened on April 27, 1916. A cable tramway between Clifton Hill and Preston ($2\frac{1}{4}$ miles), built by a private company, was subsequently bought by the Northcote City Council. The North Melbourne Tramways, extending 11.75 miles, were also constructed by a private company between Flemington Bridge and the Saltwater River and were opened towards the end of 1906.

Under an Act of Parliament of 1904 the Board of Land and Works was authorised to construct a tramway from St. Kilda to Brighton. The line to Park Street, Middle Brighton, was opened on May 7, 1906, and the extension to Brighton Beach was completed on December 22 of the same year. The total length is 5.16 miles and is on the 5ft. 3in. gauge. This tramway, and also the electric line from Sandringham to Black Rock (now extended to Beaumaris), and opened in March 1919, are under the control of the Railway Commissioners.

Queensland. The first tramways in Brisbane were horse-drawn and were opened on August 12, 1885. The system failed to return a profit and was later transformed to haulage by electric power. The first line converted was from North Quay to Breakfast Creek.

In 1909 the Rockhampton Municipal Council opened a system of steam-hauled trams, the track being built on the 3ft. 6in. gauge and the length being 6.65 miles. Many other tramways have been constructed in Queensland, but mainly for the purpose of the conveyance of sugar-cane from the fields to the mills and therefore not to be properly classed as tramways.

South Australia. A system of horse-drawn tramways was constructed for Adelaide by private companies in 1878 and continued under private control until 1906, when the Municipal Tramways Trust Act authorised the Government to acquire all lines. The trust consisted of eight members and was given wide powers for extension and operation. The forty-nine miles of tramways were purchased by the Government for £283,357 and converted to electric haulage. The first electric system—Kensington to Norwood—was opened on March 9, 1909.

Tasmania. In Hobart a commencement of tramway traffic was made by the construction of nine miles of electric tramways by a private company. They were opened for service in 1893 and were subsequently purchased by the Hobart Municipal Council.

Under the Launceston Tramway Act of 1906 the City Council came to an agreement with a private company for the construction of an electric tramway system. The agreement lapsed, and the City Council constructed and now operates the lines. The system was opened on August 16, 1911, and is now 10½ miles in length.

Western Australia. In 1912 the Western Australian Government opened negotiations for the purchase of the tramway system from the English Company which built and operated it. A Tramways Purchase Act was passed, and the whole of the system in Perth and suburbs was taken over by the Government in July 1913. The tramways have been placed under the control of the Commissioner for Railways. The Nedlands Park Tramway and the Victoria Park Municipal Tramways were also acquired by the Government in 1913; and the Osborne Park Tramway on December 15, 1914.

The Kalgoorlie and Boulder Tramways are operated by a private company. The first section of the system was opened in 1902 and the last section completed in 1904.

The Fremantle electric tramways (8.61 route miles) are owned and operated by the Municipal Council, with power taken from the Government Electric Trust. They were opened in November 1905 and are on the 3ft. 6in. gauge, as are all the other tramways in the State.

THE PROGRESS OF LOCAL GOVERNMENT IN AUSTRALIA

THE first Act in *New South Wales* providing for any system of Local Government was entitled the Parish Roads Act and was passed in 1840. Under this Act one-third of the proprietors of land through which, or within three miles of which, a parish road passed could requisition the magistrates in Petty Session for authority to elect Trustees, who were empowered to levy rates not exceeding 6d. per acre; to buy, sell, or exchange lands; to appoint surveyors; to establish tolls and toll-bars and let them on lease for periods not exceeding twelve months; and to borrow money for road-making and road-repairing.

The Imperial Act of 1842 empowered the Governor to constitute district councils with local functions, the revenue to be raised by levying rates within the district. Qualifications for councillors were the same as for the Legislative Council. The duties of these Councils were the construction and upkeep of the roads, streets, bridges, and public buildings; the establishment and support of schools; the purchase, sale, and management of property; the provision of means for defraying certain expenses connected with the administration of justice and the police. This comprehensive scheme of Local Government was strongly opposed by the colonists, mainly because of the provision for the local authority to pay half the cost of the police expenses while the sole control of the police lay with the Governor.

Under the above Act there was incorporated in 1843 a district including Appin, Narellan, Campbelltown, Camden, and Picton. Later, Appin and Campbelltown were constituted separate districts. In 1844 there were twenty-eight district councils in the colony. With the exception of certain road-trusts, specially established, no further extension of Local Government took place in the colony until 1858, when the Municipalities Act was passed. This Act provided for the incorporation of any town or rural district as a municipality upon petition from any fifty resident householders. Elections were to be held under a ratepayer franchise. Revenue was to be derived from tolls, a general rate on assessed annual value, and special rates for sewerage, etc. Provision was made for a Government subsidy for a limited period after incorporation. Under this Act thirty-five districts were incorporated—thirty-three of which still exist.

An Act of 1867 repealed the Municipalities Act of 1858 and provided for the classification of all future municipalities into boroughs and municipal districts, existing municipalities being classed as boroughs. A city, town, or suburb of the metropolis, or of any populous country district, could be constituted a borough if it contained a population of not less than 1000 and an area of not more than nine square miles, of which no part was farther distant from any other part than six miles. Any area of country not containing a borough and having a population of not less than 500 and an area of not more than fifty square miles might be constituted a municipal district. Incorporation was voluntary, and plural voting for the aldermen was allowed. During the succeeding years a great number of amendments were made to this Act, and these, with the original Act, were consolidated in a new Act in 1897 without any new principles being introduced.

The city of Sydney was incorporated in 1842. In the

year 1849 a Select Committee of Parliament reported that the City Council had lost the confidence of the citizens and was an impediment to the advancement of the city. The Select Committee added to its report a recommendation that the Council should be dissolved and that its powers should be administered by three Commissioners. A resolution embodying the features of the Select Committee's report was rejected by the Legislative Council in 1849; but, after further consideration and a further report by a Select Committee, in 1853 the Corporation was dissolved and the city placed under the rule of three Commissioners. Self-government was not restored to the citizens until 1857.

Except for a number of minor amendments which complicated the working of the Act, no further provision for Local Government was made until 1905. The Shires Act, passed in that year, formulated an entirely new system of Local Government. The voluntary system was abandoned, it being shown that under the voluntary system only 2830 square miles had been incorporated out of a total of 310,372. The new Act divided the State, with the exception of existing municipalities and the sparsely-settled western district, into shires, and these were subdivided into ridings, with equal representation on the Shire Council. The powers given to these councils were very wide and comprehensive. The rating was to be on the unimproved value of land, and not, as before, on the annual rental value. Immediately the Shires came into existence, the State Land Tax was withdrawn.

The principles adopted in the Shires Act were extended to Municipalities by the Local Government Extension Act of 1906, in which the distinction between municipal districts and boroughs was abolished. The Governor was empowered to proclaim as a city any municipality which had, during the five years preceding the Proclamation, an average population of at least 20,000, with an

average revenue of at least £20,000, and which formed an independent centre of population.

The Local Government Act of 1906, consolidating the acts governing the Shires and Municipalities, came into force in 1907. This was amended in 1907 and 1908 and was finally repealed by the Local Government Act of 1919.

Small changes were made in the Local Government Acts in New South Wales between the years 1909 and 1918. In the last year Local Government was vitally affected by the passing of the Women's Legal Status Act, which gave women equal rights with men in election to the offices of aldermen and councillors.

The Local Government Act of 1919, passed by the New South Wales Parliament, continued and improved the system adopted in 1906. Under it new Shires could be established, while the old ones continued or were altered to suit circumstances. In addition much larger municipal units could be constructed through the provision for municipalities and shires to join in creating county districts. Under this provision four county districts have been formed—St. George, Richmond River, Clarence River, and Southern Riverina. The Act also provides for units smaller than shires, and any village or town in a shire may be proclaimed an urban area, with a committee of three members exercising certain powers locally under the supervision of the Shire Council.

Each shire is divided into three ridings, and municipalities may be divided into wards. A Shire Council consists of either six or nine Councillors presided over by a president. A Municipal Council consists of from six to twelve aldermen, presided over by a mayor. Councillors are elected every three years. Women are eligible for office and also vote. The local authorities are authorised to construct and maintain roads and streets; to pro-

vide water supply and sewerage or sanitary system; to enforce the public health acts; to carry out town improvement schemes; to regulate the erection of buildings; to provide and maintain public reserves, parks, baths, libraries, hospitals, etc.; to manufacture and supply gas, electricity, or hydraulic power; to provide telephone services for outlying districts; to acquire and preserve places of historic interest or scenic attraction; to control the plucking of wild flowers; to keep rivers and watercourses free from obstruction; to impound straying animals; to regulate cremations and burials and provide cemeteries and crematoria; to establish public markets, weighbridges, wharves, abattoirs, sheep-dips, inland watering-places for travelling stock, etc.; to regulate the sale of fish and meat; to license vehicles, to build light lines of railways, and tramways and maintain ferries; to build and sell houses for working-men; to provide and manage employment registries; to compel the destruction of noxious weeds.

All lands, except public parks, the sites of charitable institutions, unoccupied Crown lands, and similar areas, are rateable. The Councils may raise loans and are entitled to participate in Government grants for specific purposes.

The Act is administered by the Local Government Department, and if a Local Government area defaults the Governor is empowered to appoint an Administrator for such area. The Department advises and assists the Local Government bodies and makes available to the Councils its expert engineering staff, advises them on town-planning, and collects and collates information of value to them.

In 1927, as a result of the disrepute into which the government of the City of Sydney had fallen, Parliament passed an Act for the abolition of the City Council, placing the Government of the city under a Commission of three members. This is the second time the city of Sydney

has been under such control. The Commission is to act for a term of two years, ending in 1929, but the Government has power to continue it if, in its opinion, the work for which the Commission was appointed has not been fully accomplished. One of the Commissioners was to be Chief Commissioner and exercise the duties of Lord Mayor. The Commissioners were given power to investigate the previous aldermanic administrations and to take such action on the reports of the investigations as they thought necessary. Several prosecutions under that clause of the Appointments Act have taken place.

The great expansion of the city and suburbs compelled the City Council some years ago to plan largely for the future. One of the chief problems dealt with was the supply of power and heat by electricity. At Pyrmont the Council has a fine modern power-plant, but, before 1925, it was working almost to capacity, and the Council realised that it would have to make extensive additions to provide for future and almost immediate requirements, especially in view of the fact that it was already purchasing electricity in large quantities from the Railway Commissioners. In 1928 the electricity so purchased amounted to £10,000 per month.

The Council decided to build a power-plant of a size that would fulfil the requirements of the city and suburbs for many years in the future, at the estimated growth of population. Bunnerong was the site selected, and the plans and estimates prepared showed that the scheme would cost approximately £3,899,780. Up to November 28, 1927, the expenditure on the work amounted to £846,400. At the end of the year 1928 the works at Bunnerong were reaching a stage when the first three units of steam-raising power and the first two units of electricity-generating plant could be brought into operation. On January 2, 1929, the Bunnerong Power-house was put into operation with one 25,000 kilowatt

(about 33,000 electrical horse-power) turbo-alternator at work, another standing by ready for use. Two of the new boilers were at work, and a third was ready to take the place of either in case of a breakdown. By the winter of 1929 there will be six turbo-alternators at work, fed by eighteen of the big modern boilers. Bunnerong Power-house is the largest in Australia and compares more than favourably with any power-house in the world.

The total area of the State of New South Wales incorporated at the end of 1926 was 184,110 square miles—2520 square miles in municipal areas and 181,590 in shires. There were 181 municipalities with a total population of 1,637,600 persons; an unimproved capital value of £160,646,393, and an improved capital value of £495,418,984. There were 136 shires, with a population of 684,400 and an unimproved capital value of £154,614,441.

The Main Roads Board of New South Wales was constituted under the Main Roads Act of 1924 and became operative on January 1, 1925, making provision for main roads, secondary roads, and developmental roads. At the time of the passing of the Act the Government initiated a new system of motor-car taxation, based on the weight of the vehicle and class of tyre used. The Main Roads Act provides that this taxation shall be set apart for main-roads purposes. In addition the Board is empowered to levy upon Municipal and Shire Councils in the county of Cumberland "requisitions" for contributions not exceeding one halfpenny in the pound upon the "unimproved capital value" of all rateable lands in suburban municipalities and one farthing in the pound in the city of Sydney. The Board has no power to levy on country districts. The contributions made by these Councils to the Main Roads Board are matters of negotiation and agreement on the pound for pound basis, although the Board has the power to require from Councils contri-

butions for particular work. The Board has no power to raise loans, but the State Treasurer may borrow money and make it available to the Board.

The revenue of the County of Cumberland section of the Main Roads Board work from January 1925 to June 30, 1926, was £900,405; the expenditure for that period was £703,615, for the year 1926-7 the revenue was £716,824 and the expenditure was £1,013,913, absorbing the large amount of money left over from the previous year. For the country main roads the Board received £1,522,761 and expended £862,565 for the sixteen months ending June 1926. For the year 1926-7 the income was £976,656 and the expenditure £1,235,857; the difference being made up by the balance in hand from the first sixteen months' working.

During the first sixteen months of the Board's existence it received from the Commonwealth Government the sum of £138,000, on condition that the State or Councils would contribute a similar amount for the purpose of developmental roads. This grant was not continued in the year 1926-7.

Victoria. The Imperial Act of 1850, in creating Victoria a colony, empowered the Governor to proclaim districts under the Imperial Act of 1842 upon petition by the inhabitants, and to establish elective District Councils with power to make by-laws for constructing and maintaining roads and bridges, establishing schools, and levying local tolls and rates. The clause in the 1842 Act providing for the District Councils to provide half the upkeep of the police within the bounds of each district was deleted in the 1850 Act.

In 1853 was passed a Roads Act which provided for the creation of a Central Road Board for the care of main roads, and authorised the Governor to divide the colony into Road Districts within which local Boards, respon-

sible for the parish roads and with power to levy rates, might be elected by resident property owners. This Act was repealed in 1863, when a Road Districts and Shires Act was passed. The Central Road Board was abolished; any Road District having an area of not less than 100 square miles and a revenue from general rates of not less than £1000 might be incorporated a shire, with powers additional to those of a District, including the right to raise loans and grant licences. An Act of 1854 had already provided that any district having an area of not more than nine square miles, no part of which was more than six miles distant from any other part, and having a population of not less than 300 persons, could be incorporated a municipal district. The principal clauses of this Act were consolidated—with subsequent amendments—in the Boroughs Statute Act of 1863. Further amendments in 1869 provided for the development of Boroughs into "towns" and "cities" as their revenue increased. The first boroughs to improve their status under this Act were Prahran, which became a town, and Ballarat, which took the status of a city in 1870. The Shires Act was amended in 1869, when the one hundred square miles minimum was abolished and provision made for the amalgamation of small shires with boroughs.

The Local Government Act of 1874 consolidated the provisions of the Shires and Boroughs Acts and was itself consolidated by the Local Government Act of 1890.

Melbourne was proclaimed a city by letters patent on June 25, 1847. The city is now divided into eight wards, each represented by one alderman and three councillors. The Lord Mayor is elected annually by the aldermen and councillors from among their number and the councillors, who are elected for three years, choose aldermen, who are elected for six years. Two assessors for each ward and two auditors for the city, are elected annually. The franchise may be exercised by adults occupying any

house or shop of an annual value of £10, and by resident householders in the city or within seven miles of it. Plural voting is allowed. Geelong, incorporated a town in 1849, was proclaimed a city in 1910, the Acts governing Melbourne being made applicable to it.

In 1899 the Victorian Government appointed a Select Committee to inquire into the Local Government system then in operation. Shortly after the Committee was appointed its powers were enlarged to those of a Royal Commission. This issued its report in 1902, attaching a draft bill which became in 1903 the Local Government Act, consolidated with amendments in 1915. Under this Act provision was made for the continuance of municipalities already created, and the creation of new ones. Any part of the State returning a sum of £1500 at a rate of not more than one shilling in the pound could be constituted a shire on the petition of at least fifty inhabitants. Boroughs were to be areas not exceeding nine square miles, with no point distant more than six miles from any other and with 500 or more resident householders and an income of £300 at the rate of not more than one shilling in the pound on the annual value. Any area not exceeding three square miles, distant more than ten miles from the city of Melbourne, might be proclaimed a township on the petition of not less than twenty-five ratepayers. Any male adult holding property of the rateable value of £20 might become a councillor. The councillors elect their own chairman, who, in cities, towns, and boroughs, is styled "Mayor," and in shires "President." The franchise was on a property basis of £5 and over, provided that owner and occupier were not enfranchised for the same property. Corporations liable to be rated might enroll in their name not more than three persons. Joint occupiers and owners, not exceeding three, were entitled to enrolment. Plural voting was allowed on a fixed scale. All land, including buildings and im-

provements thereon, with certain exceptions, was rateable at net annual value. A council might, with the consent of the ratepayers, rate on the unimproved capital value, adopting the valuation made under the Land Tax Act of 1915. The Government endowed the shires and boroughs on the annual amount of general and extra rates received, but gave no endowment to cities or towns.

No alteration has been made in the Victorian Local Government laws since 1915. In 1925 the Government endowment amounted to £50,000, and an extra sum of £63,771 was paid as the equivalent of licence fees, etc., incurred under the Licensing Act of 1915. The whole State, with the exception of French Island, is now subject to the provisions of the Local Government Act, though the cities of Melbourne and Geelong, incorporated under separate and earlier Acts, are subject to it in only a few details. In 1926 there were 55 towns, cities, and boroughs and 139 shires incorporated in Victoria.

In 1918 the Victorian Government passed an Act for the erection of a Power-house on the Morwell (since named the Yallourn) brown-coal fields, to serve Melbourne and other districts with electrical power and light. Plans were prepared for a preliminary power-station of 50,000 kilowatts, to supply energy pending the construction of the main station. Twelve boilers supply steam to five turbines of the Metro-Vickers type, each of 12,500 kilowatts. The generated electricity passes from the turbines at 11,000 volts and is increased for transmission to Yarraville—the main metropolitan distributing station—to 132,000 volts. The daily generation amounts to 400,000 units. In 1924 Yarraville distributed to Melbourne 58,147,655 kilowatt-hours.

Queensland. Under the Municipal Institutions Act of 1864 the Governor of Queensland was empowered to incorporate as a municipality any city, town, or rural district

with a population of 250 or more, on the petition of not less than one hundred resident householders. The councils were given powers for the construction and maintenance of roads, bridges, ferries, cemeteries, baths, water-supply, lighting and sewerage, and the prevention of the erection of easily inflammable buildings in the "first-class divisions." The Provincial Councils Act of 1864 gave the Governor power, on petition, to proclaim any portion of the colony a province and to appoint a council of not less than three or more than nine members. Only one council was constituted under the provisions of the above Act, and it soon ceased to function. During the 1870's certain Road Trusts were established, mainly to effect minor improvements.

A Local Government Act of 1878 made provision for the compulsory incorporation of municipalities and for the division of rural areas into shires of the Victorian pattern. The shire system was found to be unsuitable for the needs of the sparsely populated colony, and in 1879 a Divisional Boards Act authorised the Governor to constitute any portion of the colony, outside existing municipalities, a Division, with a Board of three to nine members. Postal voting was provided for.

Under the Divisional Boards Act about 660,000 square miles of the colony were divided into 74 Districts, some very extensive and sparsely populated. The Boards were subsidised by the Government to the amount of one shilling in the pound on the annual value, with an endowment for the first five years of £2 for each pound of rates collected, and thereafter pound for pound. The Act remained in force until 1902.

In 1902 a Local Authorities Act was passed to replace the Divisional Boards Act of 1879. This Act, with amendments, now constitutes the principal Act. Under it the whole State is incorporated into cities, towns, and shires. All municipalities formerly constituted as boroughs

are towns. All shires and divisions are shires. An amendment to this Act provides for a Main Roads Board for the building and maintaining of main roads and bridges. This Board has a separate organization and has its funds voted yearly by Parliament, though the municipalities contribute part of the money, repayable over a long period of years. All minor roads and bridges are under the control of the municipalities. Another government department exercises wide powers over natural watercourses, under a Water Supply and Irrigation Act.

Apart from Brisbane, ten cities have been constituted in Queensland—Bundaberg, Cairns, Charters Towers, Gympie, Ipswich, Mackay, Maryborough, Rockhampton, Toowoomba, and Townsville. Each municipality makes its own valuations, and there is little uniformity. Theoretically the municipalities have unfettered discretion, but in practice they are subject to limitations.

The power to alter boundaries lies with the Governor-in-Council. Members are elected for three years, one-third retiring annually. All adults whose names are on the parliamentary roll are eligible to vote. All lands, except those belonging to the Crown, or used for religious or charitable purposes, are rateable on the unimproved capital value. Rating is generally limited to one shilling in the pound, but special rates may be levied for cleansing, lighting, water, and tramway purposes. In a few instances Councils may raise their own loans, but they have usually raised them through the State Treasury.

The City of Brisbane Act was passed in October 1924, creating one municipal area of 384 square miles—or, roughly, the area within a ten-miles radius from the Brisbane General Post Office. The city embraces the cities of Brisbane and South Brisbane; the towns of Hamilton, Ithaca, Toowong, Windsor, Sandgate, and Wynnum, and ten suburban shires. The first Council of the new

city was elected on March 21, 1925, but did not function until the October of that year.

The Council is invested with complete legislative and administrative control of every local-government activity within the area. Several of these were taken over automatically when the Council operated in October 1925; some of them were subsequently absorbed. One of the most important results of the centralized Council was the unification of Health Control, which had previously been divided between twenty local authorities. Another important department, which previously had been completely neglected, is town-planning. The Council consists of twenty aldermen, one for each of the twenty wards, and a mayor, who is elected by the voters, the franchise being the parliamentary roll. Triennial elections are held for the whole Council. The valuations for 1926, on the unimproved land basis, were more than £20,000,000—roughly an increase of £4,000,000 on the previous inadequate assessments in some of the shires. The whole area, except such parts as are used for dairying and agriculture, carries a uniform rate.

In 1926 there were 28 cities and towns and 124 shires in Queensland. The former have a total area of 843 square miles and the latter an area of 669,051 square miles. The total population of municipalities and shires at the end of 1926 was 879,419. The rateable value of the cities and towns was £29,952,796, and of shires £48,473,508.

South Australia. A system of Main Roads Boards was established in South Australia in 1849. They proved unsatisfactory, and in 1887 they were abolished and their powers vested in Corporations and Councils. In 1849 a Municipal Corporations Ordinance empowered the Governor to incorporate, on petition of two-thirds of the resident householders, any town, village, or hamlet, with

certain exceptions. This Ordinance was repealed in 1861 by the passing of the Municipal Corporations Act, which provided for the Governor to proclaim any place a municipality on petition. Municipal corporations were authorised to maintain streets, common sewers, and water-works; to levy water-rates; to control public slaughter-houses and markets and organize fire-brigades. A Consolidating Act of 1880 was, in turn, consolidated by the Municipal Corporations Act of 1890. Under this Act the Governor may constitute new municipalities, or alter the boundaries of those existing, on petition of two-fifths of the rate-payers or owners of rateable property. He may, also on petition, alter the number of wards in a municipality.

The District Councils Act of 1852 empowered the Governor to constitute districts. All occupiers, owners, and tenants were qualified to vote for a council of five members, who had control of the roads of the district and could license pounds, slaughter-houses, and issue depasturing and timber licences. They could also nominate constables each year. The District Councils Act of 1858 consolidated previous Acts. A new Act in 1887 abolished plural voting, and under it Drainage Boards were merged with Councils, which were also invested with powers previously exercised by Main Roads Boards.

The City of Adelaide was first incorporated in 1840, under a special Ordinance, but the Council was abolished in 1843. From that date to 1849 the city was managed as a Government Department and then, until 1852, by City Commissioners. In 1852 a Council was again elected. Since the Municipal Corporations Act of 1881 Adelaide has been subject to the Acts relating generally to municipal corporations. Some years later the municipal franchise was thrown open to women, as was also the qualification to act as alderman or councillor by an Act of 1914.

In 1917 the Government established a Local Government Department to maintain closer relations between

the Government and the Councils. The Department has the administration of the Grants-in-Aid; it advises on road construction, and co-ordinates generally the road-work of the Department with that of the Local Authorities. In practice it has no control over the loans raised by the local authorities, but the Minister has power to withhold the subsidies payable to the local authorities if in his opinion the councils fail to carry out the duties imposed by the Act of Parliament.

In South Australia there is no central control of local officers, except officers of Health, who are under the administration of the Board of Health. All work carried out by the aid of Government grants is subject to inspection by officers of the central department. District Council accounts are kept under the supervision and audit of the Auditor-General; the by-laws have to obtain the Governor's approval. In spite of the wide powers given to it, the Central Department has more of an advisory than a controlling authority.

With the establishment of the Local Government Department in 1917, no further amendments of the Local Government Acts took place in South Australia. In 1925 there were 39 corporations and 155 district councils; the corporations covered 64,080 acres, with a population of 238,009 and a capital value of £65,550,732, and the district councils 31,023,175 acres, with a population of 294,749 and a capital value of £85,608,532. The assessment value of the corporations was £3,300,048, and that of the district councils £4,280,375.

Western Australia. Perth, the capital city of Western Australia, was made a city in 1851, and in 1871 a Municipal Institutions Act substituted municipal councils for town trusts. This Act was repealed, except in regard to the city of Perth, by the Municipal Institutions Act of 1895, which was also repealed by the Municipal Corporations Act of 1906.

Until 1886 provisions relating to health and sanitary arrangements were included in the Municipal Acts. In that year a Health Act was passed, authorising the appointment of a central Board of Health and of local Boards in the municipalities. The expenses of the Central Board of Health were met by the Government, and those of the local boards by a Health Rate levied by municipal councils.

The Municipal Corporations Act came into force in 1906. Under it the Governor is authorised to incorporate any portion of the State having rateable property yielding £750 on an annual rate. He is also empowered to reconstitute municipalities. Councils consist of a mayor and from six to twelve councillors, according to population. Every British male adult ratepayer, with certain exceptions, is eligible for election as Mayor or councillor. The franchise is of British male adult ratepayers. All land, with certain exceptions, is rateable on the annual value, the annual value of occupied land being the average rent obtainable, less 20 per cent for outgoings. The Councils have specified borrowing powers and can claim to share in the annual parliamentary grant, provided that they are levying a minimum general rate of one shilling in the pound and that they collect therefrom not less than £300. Newly constituted municipalities, during the first year of their existence, are allowed a subsidy of £2 for every £1 of the produce of the general rate.

A consolidating Health Act was passed in 1911, substituting the Commissioner for Public Health for the Central Board then in existence. It is provided that, where a Health District was conterminous with a Road District, the Road Board should be the Local Board of Health. Boards of Health may therefore be constituted by municipal councils or Road Boards, or may be separately established.

In 1926 there were in the State 21 municipalities,

covering an area of 58,981 acres, with a population of 177,591, and property of a capital value of £36,882,613, and of the annual value of £2,099,513. The Road District Act of 1919 empowered the Governor to establish a Road District Board in any part of the State not included in a municipality. These Boards consist of from five to thirteen members and, in addition to special functions relating to roads and bridges, are invested with most of the powers enjoyed by Municipal Councils. Their revenue is derived from rents, fees, fines, and from general local and loan rates. The rating is on the unimproved capital value, or, in towns, on the annual value. In 1926 there were 124 Road Districts, covering an area of 975,828 square miles. In the same year there were 124 Local Boards of Health in the State. Local authorities contribute to the expenses of the fire-brigade service and are represented on the central board.

Tasmania. Under the Tasmanian Rural Municipalities Act of 1858 any town could be proclaimed by the Governor on petition of at least fifty qualified persons. The control of such municipalities was vested in a Council of six members elected by male adults with not less than £15 property qualification. The functions of the Councils covered the care of the public roads and streets, control of the police, water-supply, the licensing of butchers, the registration of dogs, the administration of common lodging-houses and impounding Acts. Councils could levy rates, and the Government granted them subsidies.

A Town Boards Act was passed in 1884. This empowered the Governor to proclaim towns, but did not apply to any town situated within the boundaries of a rural municipality. Provision was made for the election of Town Boards, which had the administration of the Police Act of 1865 with respect to the health and improvement of the towns. The Boards were authorized

to levy rates, and later Amending Acts invested them with additional powers. All separate districts, together with rural municipalities and Town Boards, were abolished by the Local Government Act of 1906.

The Local Government Act of 1906 appointed a Commission to divide the State into not more than sixty districts and to sub-divide each district into not less than three nor more than five wards. The cities of Hobart and Launceston were exempted from the provisions of the Act.

Forty-nine districts were established by the Commission, but the number has not remained constant. Under the Act the Governor may incorporate municipalities, alter boundaries, etc. There are three councillors elected for each ward, and the Warden is elected by the Councillors from among their number. Every male resident, or every male having a place of business within the municipality, is eligible for election as councillor. Local franchise may be exercised by every male adult, natural-born or naturalized, who is a ratepayer, or by a corporation or joint-stock company whose name appears on the assessment roll. Plural voting is allowed. A Council may define a Local District and assign to it a Special Standing Committee with functions vested in it by the Council. The Councils have very wide powers and may, by permission of the Governor, unite for the construction of certain works. General and special rates are levied on the annual value of property. The Councils have limited borrowing powers and are entitled to Government subsidies.

The Local Government Act is administered by the Minister for Lands and Works, who has power to settle all disputes. Local by-laws must be approved by the Attorney-General. Municipal accounts are subject to Government audit. The Governor-in-Council has power to regulate elections, to repeal by-laws, to receive and dispose of petitions, etc.

In 1926 Tasmania had forty-nine municipalities. They were represented on the Fire Brigade Boards and contributed towards the expenses, being authorized to levy a special rate for the purpose if the municipal funds are unable to meet the charge.

SYDNEY HARBOUR BRIDGE

THE work on Sydney Harbour Bridge, connecting North Sydney and the wide-flung northern suburbs with the City of Sydney was far advanced at the beginning of the year 1929. Both pylons were up to road height, with the approaches in a very advanced stage. Already sufficient of the ironwork of the huge span is in place to give a fair idea of the immensity of the undertaking.

The roadway from Broughton Street to Macdougall Street has been formed and, when metalled, will be opened for traffic. On the city side the tunnels have been completed. In December 1928 Parliament passed an allotment of £1,522,200 for the 1929 expenditure. The total cost of the bridge to date is £3,348,908, and a further amount of £2,751,092 is required to complete the work.

FIRE BRIGADE

At the beginning of the year 1877 sixteen Insurance Companies in New South Wales had at risk the sum of £13,198,000. These companies contributed to the Fire Brigade Fund a total sum of £1963. Fourteen other Companies dealing in Fire Insurance did not contribute.

In 1877 the Fire Brigade had a staff of 27 members stationed at ten brigade centres and working under almost independent Superintendents. During the year the Brigade answered 316 calls, of which 21 were false alarms. The plant consisted of three steam-engines, four manual engines, and two hand hose reels. Fire-fighting continued in this form up to the year 1884, when the Government

passed the Fire Brigades Act, constituting the Fire Brigades Board to take over the Brigades of the Sydney Fire Establishment.

Before the establishment of the Fire Brigades Board the revenue of the fire-fighters was derived mainly from contributions from certain Insurance Companies. In the year 1880 the number of contributing Companies had grown to forty-six. Under the new Act the Board was supported by revenue derived from the Government, the Fire Insurance Companies insuring property within the metropolitan district, the municipal councils of the city of Sydney and of several other municipalities within a defined area. At the inception of the new Act the staff numbered thirty-seven. In the Metropolitan District there were sixteen registered brigades and eleven unregistered brigades, five of which were disbanded during that year.

In 1909 the Government, under the Fire Brigades Act, extended organised fire-fighting from the metropolitan area to the whole of the State. The Board was superseded by a Board of Fire Commissioners of which Charles Bown was Chairman. In that year there were 21 stations in the metropolitan area, manned by 202 permanent men, and 31 stations manned by volunteers. The equipment at that date totalled three motor engines, one large electric ladder, two large horse-drawn ladders, sixteen steam fire-engines, thirty manual engines, thirteen hose reels and 137 horses. The first motor appliance used in Sydney was a chemical hose carriage manufactured by Merryweather & Sons, installed at Headquarters Fire Station on December 1, 1904. The first petrol-driven fire-engine, manufactured by the same company, was installed on September 7, 1905. In 1909 Mr Webb was appointed Chief Officer of the Fire Brigades. The first estimate of expenditure under the Fire Brigades' Act of 1909 was for the year 1910 and totalled £84,507, the

Government, the Insurance Companies, and the Municipalities contributing in equal proportions.

Chief Officer Webb died in 1913 and Deputy Chief Officer N. G. Sparks was appointed Chief Officer of Fire Brigades. In 1921 Sparks retired and Deputy Chief Officer F. Jackson was appointed in his place.

The estimate of expenditure for the year 1927 was £325,104 and, under the Fire Brigades Amendment Act of 1927, was payable as to one-fourth by the Government, one-fourth by the municipalities, and one-half by the Insurance Companies. This estimate covered Sydney and the country districts.

In 1927 there were 75 Brigades in the metropolitan area, manned by 419 permanent firemen and 152 partially-paid firemen. They were equipped with 72 motor fire appliances and four large ladders. In the country districts there were 117 Brigades, manned by 56 permanent firemen and 1097 partially-paid firemen. They were equipped with 66 motor fire appliances and one large ladder, 21 horse-drawn turbine engines, fourteen manual fire engines and 99 hose reels.

THE PROGRESS OF TRADE AND COMMERCE IN AUSTRALIA

THE discovery of gold in Australia effected a revolution in all industrial relations. Many immigrants who arrived during the gold rush having failed, for one reason or another, to gain wealth on the goldfields, settled to the trades and occupations which they had followed in the land from which they had come. In later days the depletion of the alluvial deposits drove many diggers back to their former trades, and the population, tending to accumulate in the larger cities and towns, formed artisan communities.

Construction of the first railways (1854) and the

establishment of regular steamship communication with Europe (1856) helped to encourage industrial activity. New South Wales and Victoria (the latter of which received responsible government in 1855) turned their attention to the development of their agricultural lands, and the consequent farming population increased production and developed manufactures.

It is estimated that for the period 1851-58 the excess of arrivals over departures in Australia totalled 450,000, and if, at a moderate estimate, each migrant brought £25 into the country, the extra capital available must have amounted to over £11,250,000. The goldfields needed food and other supplies close at hand, and that need resulted in closer settlement, which—especially in New South Wales—displaced a number of squatters, forcing them to seek fresh pastures farther afield. Town life became more attractive, and the population showed a marked tendency to congregate in the larger cities. Through its proximity to the richest goldfields and the wonderful expansion of trade caused by them, Melbourne manufactures and importations soon passed those of other Australian cities. In 1858 the trade of Victoria was about double that of New South Wales.

An important effect of the gold-boom was a quick rise in wages and the establishment of a higher standard of living among the wage-earning classes. The scarcity of labour gave opportunity to raise wages, and the sudden and often ostentatious prosperity of lucky miners aroused in the breast of the artisan classes—from which many of the successful miners had risen—a desire to strive for a betterment of their own living conditions.

The years 1859-72 showed a downward tendency in wages and the cost of living. Trade was steady. In 1862 exports amounted to £12,065,000, and the value of the oversea trade was £32 11s. 6d. per head of population. Assisted immigration, the expansion of railways, and the

adoption of a protective fiscal policy by Victoria, tended to make the country more self-supporting. Yet amid this definite period of prosperity there was an era of financial stringency. New South Wales was paying, at one time, $7\frac{1}{2}$ per cent on debentures. In 1872 Australian exports were valued at £22,578,000—an increase of 54 per cent in fourteen years, as against one of 440 per cent during the eight years of the goldfields' rushes.

From the year 1872 there was a sharp decline in gold production—from £7,500,000 in 1872 to £4,500,000 in 1886. Immigration fell away, and land settlement was very slow. Yet in the years 1872-93 Victoria and South Australia increased their cultivated areas from 2,500,000 acres to 5,500,000 acres. Prices of pastoral products fell nearly fifty per cent. Against that large drop—which affected New South Wales more particularly, as a largely pastoral country—the colony benefited by a great increase in the silver output from Broken Hill, the copper output from Cobar, and the increased coal output. Victoria also extended her manufacturing plants until in 1889 her factories employed some 57,400 persons. These and other influences tended to steady trade figures, and, though with remarkable fluctuations, the value of oversea trade fell from £24 per head of population in 1872 to a little over £19 in 1892.

During the 1870's and 1880's private capital from abroad entered Australia in large quantities, encouraging unlimited speculation. The colonial governments, instead of restricting expenditure, borrowed largely, and helped to circulate an artificial prosperity. A small reaction began in 1886 with an all-round decline in export prices, wherever world-prices influenced the markets. A reduction in wages followed, producing strikes in many industries, more particularly among the coalminers of New South Wales. In consequence there was a marked decrease in the influx of private capital, compelling a restriction in

Government expenditure—and unemployment increased. During this reaction the financial institutions began to call in advances, made in many cases, and to a far too large extent, against land. In an attempt to stem the tide the New South Wales Government passed an Act “to give preferential lien on wool from season to season, and to make mortgages on sheep, cattle, and horses valid, without delivery to the mortgagee.”

This Act appeared far too revolutionary to the minds of the Colonial Authorities in London, who had but a very small conception of even ordinary conditions in Australia. Their financial advisers and their commercial law authorities viewed the Act with much disfavour. In consequence the Colonial Office vetoed the Act, not once, but each of the several times it was re-submitted. However, the insistence of the men in Australia who knew the measures that would restore trade and commerce to normal at length prevailed and the Imperial Authorities’ consent was given to the measure. Credit was almost immediately re-established. The squatter, with good security to offer, could turn part of the only wealth he possessed into money by pledging the whole, and thus carry on his business. However much it might perturb overseas jurists, it soon became possible to learn of cases in Australia where a grazier had borrowed money from one source on the security of his sheep, and from another on the pledge of his wool while yet on the sheep’s back. The pyramid was completed when a borrower, if possessed of the freehold of his lands, borrowed money on it from yet another person.

The effect of this Act was to enhance the value of the Crown leases, and provision was made to enable mortgages to be given over them, while a registered lien on a growing crop was legalised for the benefit of the farmer, whether freeholder or tenant. It is probable that Australia is the pioneer of a system giving effective security over

chattels that remain in the actual possession of the borrower.

The financial crisis through which the Australian colonies passed during the years 1891-93 had a steadying effect on the influx of private capital into the Australian trade. During those years there was a consistent decrease in overseas trade. About the latter year the Governments restricted their borrowings and expenditure, and unemployment increased. The period of recovery was long and painful, the depression being prolonged by the low world-prices obtaining during that period.

The vast effect of the crisis on trade may be gathered from the fact that the value of overseas trade fell in 1894 below £16 per head of population—the lowest amount recorded since 1851. In 1893 the value of the overseas trade (both ways) was £57,000,000, an increase of nearly 38 per cent on the figures for 1872. But the population had in the same period increased by over 90 per cent.

The crisis of 1891-93 brought some good with it. It restricted, if only temporarily, the borrowings of the colonial governments. It reduced imports, so that the percentage of exports to imports, which in 1890 had been 83.4, rose in 1895 to 145. It imposed reasonable limits on trade credit, which had been granted far too freely before the crisis. It checked speculation, and ensured a re-valuation of land more nearly approximating its actual earning powers. Wages fell; but so did rents and prices. Individuals were ruined; but the community found itself in a healthier condition. Further, the restrictions on Government borrowings and general expenditure turned the flow of labour from the cities back to the farms and stations. Recovery from the crisis was quickened by a revival of mining, culminating in the vast gold discoveries of 1894-95 in Western Australia. The value of exports increased, with slight fluctuations, from £32,000,000 in 1894 to £79,000,000 in 1913.

Exports from Australia continued to rise steadily after 1899, being in 1906-7 more than 50 per cent higher than imports. The total overseas trade increased to £158,000,000, the value per head of population rising from below £16 to over £33 during the same period.

Federation placed in the Government's hands great powers over the country's trade. Customs and excise were handed over by the States and a uniform tariff instituted. Under the Constitution Act the Federal Government has power to make laws in respect of trade and commerce with other countries and among the States; also to determine bounties on production or export of goods and to control foreign trading or financial corporations formed within the Commonwealth.

In 1899, Messrs Ismay, Imrie & Co., representing the White Star Line, disposed of their sailing vessels and contracted with Harland & Wolff, of Belfast, for five steamers for the Australian trade. The first of these, the *Medic* (11,984 tons, 550ft. long and with a cargo capacity of 18,797 tons) reached Sydney on September 21, 1899, via the Cape of Good Hope. She called at Adelaide and Melbourne and was forty-nine days on the voyage. Since then a continuous service has been maintained by this vessel and the *Afric*, *Persic*, *Runic*, *Suevic* and *Ceramic*.

Until Federation the various banks in Australia, with the exception of those in Queensland, enjoyed the privilege of circulating their own bank-notes—issuing them for sums as low as £1. In 1910 the Commonwealth Government began to issue its own notes and brought the banks' privilege to an end by a tax of 10 per cent per annum on their circulation. For many years the banks had been paying a tax of two per cent per annum (three per cent in Queensland) to the various State Governments, and it is doubtful if they suffered any pecuniary loss by the Commonwealth Government's action. It deprived them,

however, of facilities for supplying their numerous branches with till-money.

A Commonwealth Act of 1910 authorised the Federal Treasurer to issue bank-notes, holding against them a gold reserve of one-fourth of the total issue up to seven millions and pound for pound for any sum in excess of that amount. The rest of the money derived from the issue of the bank-notes he might invest on deposit in any bank, or in securities of the United Kingdom, the Commonwealth, or any State. The Act provided for full convertibility of the bank-notes, and left to the demands of the public the amount to be circulated at any time.

The Federation of the Australian States in 1901, which involved the transfer of the Post Offices to the Commonwealth Government, necessitated legislation regarding the future control of the Post-Office Savings Banks in the States—other than in Victoria, Queensland, and South Australia, where the Savings Banks were not under the departmental administration of the Post Office. In 1900 Acts were passed in New South Wales and Western Australia, and in 1901 in Tasmania, placing the Savings Banks under the control of the respective State Treasurers.

In 1906 a change was made in the administration of the Government Savings Bank of New South Wales. From January 1907 it was placed under a Board of three Commissioners, whose appointments were for life. An Advances Department was created for the benefit of the farmers and other primary producers. The liquidation of the advances made by the Advances to Settlers' Board (a relief Board created in 1899 to alleviate conditions arising out of the severe drought) was included in the Commissioners' duties.

The Great War of 1914-18 materially affected the oversea trade of Australia, mainly through dislocation of shipping and increased freights. The direction of trade

was also greatly altered, but in spite of the sudden rises in prices, due to war conditions, the recorded value of trade during the four years showed no appreciable advance.

The average annual value of imports during the period 1914-1918 was only £71,223,000 as against £70,129,000 for the four years preceding the outbreak of war. In the case of exports the average annual value dropped from £78,688,000 to £77,910,000. On a quantitative basis, exports during the four years of the war were considerably lower than during the four years preceding it; and that in spite of the fact that Great Britain and her allies made very large calls on Australia for food-stuffs, wool, metals, meat, and horses. The ability to supply these demands depended largely upon seasonal influences. Unfortunately the seasons during the period of war were not entirely favourable, the first year being a particularly dry one.

Though every effort was made to increase production to meet the national emergency, the lack of labour, through enlistments, restricted output. Freight was difficult to obtain, yet in spite of the many disabilities considerable shipments were sent overseas. Special measures were adopted for the marketing of produce, wool, wheat, and metals, and these commodities were given preference in considering freights.

Wool, during the first years of the war, was sold in London under an Imperial Marketing Scheme. Later an organisation—the British-Australian Wool Realisation Association (popularly known as Bawra)—was created to take over the control of wartime carry-over wool. The wheat crops were handled by compulsory pools, marketing under Government control; metals were sold under special wartime contracts.

Imports dwindled, and manufacturers in Great Britain and overseas colonies became absorbed in the pro-

duction of war-munitions. Inward trade was compulsorily curtailed because of the shipping shortage. Moreover, the demand within the Commonwealth was restricted because of the diversion of a part of the spending power of the Community to War Loans. Over £200,000,000 was raised in Australia for war-purposes.

For the first year of the war internal dislocation was very pronounced. The oversea trade fell to £125,025,000—the smallest figures for many years since 1909. Exports at £60,593,000 were £18,000,000 below the figures for 1913; Imports by the same comparison showed a falling off of over £15,000,000. During the second year of war, and after, there was some adjustment of trade to the new conditions. The years 1915-1916 and 1916-1917 recorded expansion in values of both imports and exports, the total trade for the last year amounting to £174,184,000. Much of the increase, however, must be attributed to deferred shipments and increased prices.

The last year of the war provided trade with a most difficult problem. There was a very great shortage of shipping, due to the depredations of enemy submarines. To conserve space that year the Commonwealth Government prohibited, or restricted, imports that could be classed as luxuries. Thus the value of imports during that year, in spite of the continued increase of prices, fell by nearly £14,000,000—to £62,335,000. Partly because of the unfavourable season, exports during the same period decreased by about £16,500,000 to £81,429,000, the total trade for the last year of the war being only £18,739,000 in excess of that for the first year—notwithstanding the enormous increases in the prices during the four years.

The Commonwealth Bank Act came into force on December 12, 1911. The establishment of a Commonwealth Bank had been a plank of the Labour Party's Platform from the inception of the Federal Parliament.

Andrew Fisher, when Prime Minister and Treasurer of the Commonwealth, took with him to London in 1911 his permanent financial advisers and arranged that they should discuss very thoroughly with the leading English and French banking authorities the scheme of "a Commonwealth Bank of issue, deposit, exchange and reserve, with non-political management;" and the Bank, when eventually instituted, owed much to these discussions. The new bank was to be an ordinary bank of deposit—the note issue having been disposed of by other methods. It was to be controlled by a Governor, to carry all the Commonwealth accounts, and to have attached to it a Savings Bank operating through the Federal Post Offices.

On June 1, 1912, Denison Miller took office as Governor of the Commonwealth Bank and immediately brought into existence the Savings Bank Department, the Victorian Branch being opened on July 15, 1912. By January 1913 Savings Bank Branches had been extended throughout the Commonwealth. On January 20, 1913, the Bank was formally opened for business at its Head Office in Sydney, with branches in the five capital cities, as well as at Townsville in Queensland, at Canberra the then future Federal Capital, and in London. It was opened without any capital but the credit of the Commonwealth—a sum of £10,000 borrowed from the Commonwealth to meet initial expenses being repaid immediately the bank operated.

A credit balance was shown on general business in 1914 and on the Savings Bank business in 1917. During the war the Bank extended its activities to meet the new emergencies. All the general financial business of the Commonwealth was transacted through the Bank. It floated loans to the aggregate of £257,719,989; financed the pools for the marketing of primary produce; supplied the funds for the purchase of fifteen cargo-steamers by the Federal Government; and arranged for secret ship-

ments of gold from Australia on behalf of the Bank of England. After April 1916 it was responsible for all the banking business carried on in the occupied German territory of New Guinea.

Following the war there came a great expansion of trade. Shipping facilities improved with the large cargoes offered, and values of imports and exports increased markedly. The total trade for 1918-19 was valued at £216,299,000, an advance on the previous year of fifty per cent. Imports went from £62,335,000 to £102,335,000, and exports from £81,429,000 to £113,946,000. The following year the total trade advanced to £248,798,000. Imports declined, but exports rose to the very high figure of £149,824,000, or £28/4/11 per head of population—a record up to that time.

The trade boom reached its height in 1920-1. Imports reached £163,802,000, far in excess of those of any previous year. This advance was principally due to the despatch to Australia of orders which overseas manufacturers had been unable to execute earlier.

For the first time in the century, 1920-21 saw an unfavourable balance of trade, the percentage of exports to imports falling to 80.7. This caused a check in the next year's imports and a reduction of 37 per cent, accompanied by a contraction of only 3.2 per cent in exports; and the percentage of exports on imports rose to 124 on a total overseas trade of £230,913,000. Thenceforward trade assumed a more stable basis. The total for 1924-5 established a new record at £319,173,000, or £54/6/10 per head of population. Exports went very high, reaching £162,030,000. The high average price of wool and a big wheat harvest at good prices made the export year one of the most noteworthy, despite the fact that the imports were swelled by the import of gold to the value of £10,000,000. Exports of wool and wheat accounted for £103,000,000.

Annual reports of shipping in New South Wales are made from July to June. During the twelve months ending June 30, 1928, the arrivals at the port of Sydney were less than in previous years, but the tonnage was larger and the totals vary little. In 1926, 7652 ships of 14,961,630 tons entered, compared with 8366 ships of 16,526,798 tons in 1927. In 1928, 7800 ships entered Port Jackson, of a total tonnage of 15,808,966. It is estimated that from July 1928 to June 1929 about 9000 vessels will have entered, their gross tonnage aggregating 17,000,000.

During December 1928, the Water Board issued statistics showing that 11,878 buildings were erected in the Sydney area during the past twelve months, at a total cost of £16,100,000. In 1927, £1,873,000 less was spent, on 10,855 buildings. The report notes that during the last fifteen years this expansion has been maintained.

In 1928 the actual number of new companies registered fell slightly short of that of the previous year, but the total capital involved in 1928 was £39,000,000 against £29,998,000 in 1927.

To extend and improve the use of concrete the Australian Cement Manufacturers' Association was formed during 1928. Ten competing cement companies, with plants in Queensland, New South Wales, Victoria, Tasmania, and South Australia, co-operated in supporting the organisation, representing £7,000,000 capital. The Head Office is in Sydney, and a Branch Office at Melbourne. The Association does not sell, but is established to advance the wider and more economical use of cement. A laboratory is to be established for research in concrete, in order to assist in the economical development of natural resources in sands, gravel, and stone for concrete making.

During the year ending June 30, 1928, more than 61,000 workers were injured—a total of 11,000 more than in the previous year. Under the Workers' Compen-

sation Act, £2,000,000 was involved in compensating them. All but 1.45 per cent of the claims were settled by agreement. For the twelve months the premium incomes of the Insurance Companies were £1,746,934, but the disproportion between the income and the compensation paid is more apparent than real. Apart from the employers who insured, there are employers representing an annual wage-roll of £30,000,000 who undertook their own compensation insurance. The cost of the Commission during the year was £22,177, or £6500 more than in the year 1927.

During the past fifty years the Banks and Insurance Companies of Australia have kept pace with the development of the Commonwealth in population and industry. In many instances the progress recorded has been remarkable.

The Bank of New South Wales has, in the fifty years, increased its paid-up capital from £1,000,000 to £7,500,000; its reserve fund from £450,000 to £5,900,000; and its total assets to £88,982,585. In 1878 it had branches and agencies in New South Wales, Victoria, South Australia, Queensland, New Zealand, and London, numbering 150; now its ramifications extend through all the Australian States, London, New Zealand, Fiji, Papua, and the Mandated Territory of New Guinea, and its branches and agencies have increased to 535. In 1927 it acquired The Western Australian Bank and has now 100 branches and agencies in Western Australia.

The Commercial Banking Company of Sydney Limited had, in 1878, a paid-up capital of £500,000 and a reserve fund of £475,000. The paid-up capital in 1928 was £4,739,012, the reserve fund exceeded £4,000,000, and the assets totalled £63,154,170.

The Bank of Australasia had, fifty years ago, a capital of £1,200,000 and a reserve fund of £272,710, with undivided profits of £152,200. By 1928 it had

increased the paid-up capital to £4,500,000 and had a reserve fund of a similar amount, with assets totalling £44,594,860.

The Union Bank of Australia, Limited, had a paid-up capital of £1,500,000 and a reserve fund of £783,500 fifty years ago, compared with a paid-up capital of £4,000,000, a reserve fund of £4,850,000, and assets amounting to £47,144,289, in 1928.

In 1878, the capital of the English, Scottish, and Australian Bank, Limited, was £720,000. By 1928 it had advanced to £3,000,000 and its reserve funds and undivided profits exceeded £3,300,000. The assets totalled £44,500,000.

The Australian Bank of Commerce, Limited—successors of the Australian Joint Stock Bank with a capital of £500,000—has now paid-up capital and reserves amounting to £3,255,000 and assets aggregating £18,623,000.

The National Bank of Australasia, Limited has also improved its position. The paid-up capital has risen from £782,550 to £5,000,000; the reserve fund from £277,102 to £3,000,000; and the assets have increased to £45,622,056.

The Commercial Bank of Australia, Limited, had in 1878 a paid-up capital of £250,000, compared with £3,617,350 in 1928. At the latter date, the reserve fund was £1,663,962, and the assets £30,448,786.

The Queensland National Bank, Limited, with a capital of £375,012 and reserve fund of £32,000 in 1878, has grown to £1,750,000 of paid-up capital, £785,000 reserve funds, and assets aggregating £15,137,664, in 1928.

The Bank of Adelaide fifty years ago had a paid-up capital of £400,000 and a reserve fund of £115,000, to compare with the present-day capital and reserves, amounting to £2,220,000 and assets totalling £9,134,806.

The Commonwealth Bank of Australia, opened for business in 1913, holds, excluding the Savings Bank Department, assets amounting to £96,992,241.

The Bank of New Zealand holds, in Australia, assets amounting to £6,206,536.

The Primary Producers Bank of Australia, Limited, more recently established, has assets amounting to £2,334,000.

The records of the Life Assurance Societies of Australia show that they have made very marked advance during the past fifty years. The reports of the five largest Life Societies show that:—

The Australian Mutual Provident, with invested funds of £2,600,000 in 1878, has increased its funds during the past fifty years to £73,700,000 and its annual income to £11,000,000.

The National Mutual Life, in 1878, had funds amounting to £60,235, and has increased them to £28,509,399, and its annual income to £4,250,000.

The Mutual Life and Citizens', established in 1886, has now assets totalling £18,567,527 and an annual income exceeding £2,679,000.

The Australasian Temperance and General has advanced its funds from £2691 to £13,417,000.

The Colonial Mutual Life, established in 1873, five years later possessed funds amounting to £63,628. These have now risen to £11,000,000, with an income exceeding £2,250,000.

The City Mutual Life, now in its jubilee year, has an income of £1,223,364, with Assurance Funds at £4,840,679 and admitted reserves of £275,000.

Among Societies of more recent origin is The Australian Metropolitan Life, with assets of £892,992 and an income of £255,142.

The total assets of Australian Banks amount to £512,874,993, while £217,545,735 is held by Com-

monwealth and State Savings Banks. The accumulated funds of the Life Assurance Societies total £151,202,597. The aggregate for Banks and Life Assurance Societies amounts to £881,623,325.

THE PROGRESS OF THE PASTORAL INDUSTRY IN AUSTRALIA

EXCEPT for the few years immediately following the landing of Governor Phillip at Port Jackson, the pastoral industry has always held first place of importance in Australia. As the country became known and settlement extended, land areas were defined and apportioned. But the grants of land were of an area useful only for agricultural work and the depasturing of a few score sheep and cattle. The men who desired to run large flocks and herds could not find the land they required within the settlements, and they were debarred by Ordinance from trespassing beyond the declared boundaries.

Beyond the artificial boundaries laid down by the Governor and his councillors there were vast unknown lands, capable of grazing innumerable sheep and cattle, occupied only by a few roving natives and wild animals, few of the latter being carnivorous. Gradually some daring spirits wandered a few miles into the unknown. Others were bolder still, and presently the unsurveyed lands bordering the settlements were occupied by quickly increasing herds. At first the graziers kept a nominal connection with the settlements where their permanent homes were established, building in the wild lands temporary accommodation, where grass and water happened to be in abundance.

At the beginning of the year 1846 there were only 417,000 cattle and 1,891,000 sheep within the defined settlement areas. But outside these boundaries roamed 698,000 head of cattle and 2,518,000 sheep. Southwards

from Sydney, in the Port Phillip district, the disparities between the stock on the settlement areas and the "outer" lands stock were even more marked. The cattle and sheep within the settlement area numbered 30,000 and 351,000 respectively, while on the "outer" lands wandered 200,973 head of cattle and 1,430,914 sheep. In the northern districts of New South Wales—most of which were later separated from the mother colony and formed into the colony of Queensland—there was still a greater disparity. In 1884 only 334 runs, containing 7,440,000 acres, were within settlements. Throughout the "outer" lands were huge runs, numbering in all 9207, containing a total of 308,669,026 acres.

In the very early days of the settlements the squatters grazing sheep and cattle on the "outer" lands were regarded as trespassers, although the Government recognised them sufficiently to make them take out an annual licence for grazing on the trespassed lands. They were further assessed on their flocks and herds. At times, the authorities made spasmodic attempts to suppress these "trespassers," but without success—for the squatter had by this time become a power in the land. In 1847 the pastoralists, within and without the settlements, had secured from the Home Authorities Orders-in-Council that established for them a system of tenure. These Orders-in-Council provided that lands in the colonies were to be divided into three classes—settled, intermediate, and unsettled. In the settled districts tenure for one year was obtainable; in the intermediate districts the tenure could be secured for eight years; in the unsettled districts, for fourteen years. During the currency of these leases—except in the intermediate districts—the occupants could not be disturbed by the purchase of any portion of the land for agricultural use. The squatter could purchase any portion of his lease at the rate of £1 per acre, and, on the expiration

of his lease, had a pre-emptive right to all or any part of his lands. In the intermediate districts a new and unique form of lease was devised. Although the nominal term of the lease might be up to eight years, yet, at the end of any year, the lease might be cancelled at 60 days' notice and the land sold over the lessee's head.

These Orders-in-Council had a great effect on the wool industry. The squatters, with some security of tenure, began to make improvements on their runs and increase the efficiency of their work. But the pre-emptive right to purchase aroused much opposition from the Governors and the public, for many of the squatters "peacocked" their leaseholds by purchasing the land around the natural waters, leaving the greater portions of the runs without water-rights. Again, the fixed price of £1 per acre, at which the squatter had the right to purchase any portion of his runs during the currency of his lease, was strongly resisted on the ground that the price was, in a very large number of cases, far below that which the freehold would bring at auction.

After self-government was granted to the colonies in 1855 the character of the land problem changed entirely. The gold-rushes had brought a great accession of population. The men who had won fortunes on the gold-fields, and other immigrants, wished to settle on the land. Many of them had only a small capital and were unable to pay in full for the land they selected. Some means to help them had to be devised.

The leading scheme to foster settlement was the John Robertson Act of 1861. This Act contained two important provisions. First, the pastoral leases were granted for only one year if within the settled area, and for five years if outside it; but the whole area, surveyed or not, was open to selection and sale at any time. Secondly, selectors could pick a limited area—40 to 320 acres—in any place, at £1 per acre, and pay as deposit one quarter of the purchase

money. They had then to reside on the land for three years, making during the residence improvements worth £1 per acre. The balance of the purchase money they were allowed to pay off virtually at will, with five per cent per annum interest added.

The John Robertson scheme—conditional purchase by residence, improvements, and instalments—played a large part in the subsequent history of land settlement in Australia. The underlying principle was copied by nearly every colony—e.g., in Duffy's legislation in Victoria (1862) and in Strangways's Act (1869) of South Australia. Great things were expected from the Act embodying the scheme, and, after the main principle was modified and surrounded with safeguards against abuse, it certainly settled very large areas of land.

But the first effect of the scheme, as framed in the Act of Parliament, was to precipitate a fierce struggle between the established squatters and the invading selectors. A number of the selectors were genuine, wishing to take up land for defined use; but the Act left a loophole for the unscrupulous rogues who "settled" on the large runs with the definite determination of compelling the lessees to buy them out at greatly enhanced values. Faced with disaster, the squatters took the only means open to protect their property. They obtained "dummies" to select land on their behalf, even going so far as to take paupers out of asylums and place them on allotments. They purchased heavily at auction sales and, because they could—with the help of their credits at the banks—pay cash and buy in large tracts, they beat the small financial men in the auction-rooms. In consequence they emerged from the struggle large landowners. The legislation that had been intended to benefit the colony by establishing closer settlement, succeeded only in creating much larger estates.

In New South Wales, between 1861 and 1884, more

than 39,000,000 acres were disposed of in one way or another—more than half the area by conditional purchase. Yet this vast alienation gave the colony only 21,000 more settlers, and there were only 420,000 more acres under the plough in 1884 than in 1861. In Victoria similar developments took place during the same period, while in South Australia, in 1891, 539 persons held two-fifths of the alienated land, in estates of 5000 acres and over. Much of the land in the big holdings was within the area suitable for agriculture and was well supplied with road and railway facilities. For instance, within fifty miles of Adelaide there was an estate of 70,000 acres freehold, containing good rich soil and with a 20-inch rainfall. Similar cases could be quoted from the records of all colonies.

So great had been the evils arising out of the John Robertson Land Act that in 1894 the Government was forced to take some action. Many expedients were suggested. The one that found most favour was that the Government bought up the large estates and had them surveyed and cut up into small farms, thus finding room for a large number of small farmers.

A gradual variation in pastoral and agricultural work took place about 1870. Before that date the surplus cattle and sheep had been boiled down for tallow, and the sales of tallow, hides, and wool had become an important part of the pastoralists' incomes. The transportation of meat, and other perishable commodities, over large distances by means of refrigerating plants was attracting attention. In 1870 a number of pastoralists formed the Sydney Meat Preserving Works. Prior to that date, in 1867, at the suggestion of S. S. Ritchie, the Melbourne Meat Preserving Company was formed. But neither company could undertake much trade until cold storage had been perfected.

The pioneer shipment of frozen meat from Aus-

tralia was made by T. S. Mort in 1876. He fitted up the *Northern* at his own expense. Unfortunately the machinery failed on the voyage. Mort was not discouraged. He erected large freezing works at Darling Harbour, and slaughter-houses in the Lithgow Valley. Again he experienced failure, and he lost about £80,000 of his own money and at least another £20,000 subscribed by pastoralists. In 1880 the first successful shipment of meat—4000 carcasses of sheep—was sent out, from Victoria, by the *Strathleven*.

New Zealand had been watching Australia's experiments in transporting frozen meat over long distances. In 1881 that colony commenced to export frozen meat, and immediately became a serious competitor with the New South Wales industry. New Zealand was able to slaughter, freeze, and freight at cheaper rates than New South Wales or Victoria. In addition, she had not the heavy travelling of the cattle from the country to the slaughter-houses. In a short time she was seriously under-selling Australia.

Could the high cost of frozen meat be reduced? While in London, J. H. Geddes had noticed that chilled meat brought from 1½d. to 2d. more than frozen meat, and, as chilling was a cheaper method, he decided to experiment on his return to Australia. In 1894 Geddes made his trial shipment of chilled meat to England. The journey took 62 days. Unfortunately the machinery failed, and the meat had to be partially frozen again at Port Said. Nevertheless the attempt showed that chilled meat could be transported to England.

While he was experimenting with chilled meat shipments, Geddes tried another experiment—that of sending live cattle to England. The shipment was successful, only one bullock dying on the voyage. He next shipped twenty head on the *Maori King* for the journey to the home country via the Cape. On this venture he lost

£108. On the same vessel were 48 live sheep; four of them died, and the remainder realised only 18s. per head in England. Yet the pastoralists were not discouraged. In December 1894 the *Echuca* took away forty cattle. This venture proved so successful that within a few months a further 120 head were despatched. But the shipping of live stock did not flourish. It was shown that the expense, and the danger from death and accident, were too great; there was also the cost of attendants and feed on the voyage. It was found that meat shipped better, and more cheaply, dead than alive.

By 1894 the problem of freezing and chilling meat at a low cost had been solved. Thenceforward a great development took place in the meat industry—a development that reacted strongly on the pastoral industry. Freezing works were established in country centres. In Sydney the Pastoral Finance Association treated for transport during 1894 some 196,000 sheep, 6025 haunches, and 8500 quarters of beef. During the same time the Sydney Fresh Food and Ice Company treated 318,613 sheep and haunches and 20,000 quarters of beef. The Aberdeen Chilling, Freezing, and Meat Preserving Company treated 171,607 sheep and 123,191 haunches and boiled down for tallow 206,185 sheep. The Sydney Meat Preserving Company killed 1,050,383 sheep and 10,000 cattle, while the Bourke Meat Preserving Company dealt with from eight to ten tons of meat per day.

The land question had become so pressing by 1899 that the various Colonial Governments, in spite of their preoccupation with Federation, had to undertake the search for a remedy. Various schemes had been suggested during a few preceding years. Re-purchase, land-taxation, and survey before selection (classification of land) were the three most likely methods. All were tried at times.

Large estates lying within a few miles of populous centres were held by a few men who were not putting

them to the best use. Large areas of these lands could be used for farming wheat and other grain. Thousands of acres along the river-flats and on the fertile plains were raising only a few sheep and cattle. These lands, cut up into small areas, would provide homes and work for hundreds of farmers who could not at that time obtain suitable land at any price.

Into the land problem came a new question. The Labour Party had definitely pledged itself against the alienation of any more of the State's lands. They, like their political opponents, were anxious to gain a large rural population, with holdings of sufficient size to provide the farmers and their families with comfortable livings, yet small enough to ensure that every acre was used to the greatest advantage—but, they insisted, the land must not be alienated from the State. In the twenty years succeeding Federation only about half as much land had been alienated by sales as had been disposed of during the previous century; but that land held a far larger population and was divided into smaller areas.

The ideals of re-purchase, leasehold, land-taxation, and survey before selection were applied differently in the various States. New South Wales did not try re-purchase until 1901, but then found that it was better applicable to her particular problems than the other remedies, and has used it freely since. In this State the special surveys of Crown lands for "survey before selection" are complicated by allowing the old system of "selection before survey" to continue in practice beside it. In Victoria re-purchase was commenced in 1898, but only in a very small way.

Conditional purchase became the commonest method of settling a farming community on the land. The general conditions, applicable in nearly all the States, were:—Payment (on selection) of a deposit on the purchase price of the land; residence on the land for a certain stated

period; improvements on the land within a certain time and to certain specified values; and the payment of the purchase monies in small instalments extending over a very long term of years.

At the various times that Labour held the Governments leaseholds were the most common form of tenure allowed to intending settlers. In Queensland, where the Labour Party has held office for long terms, the leasehold area is very large. Leaseholds granted in New South Wales are "in perpetuity," the rents charged being $2\frac{1}{2}$ per cent of the value of the property. Re-valuations take place at the end of the first twenty-five years, and after that at the end of every succeeding twenty years.

Powers were taken by the Parliaments of all States, except Western Australia, to compel owners of large estates to sell. In this manner much valuable land has been resumed and cut up for closer settlement.

In the early days of the land-hunger Victoria attempted by the imposition of a land-tax to force large land-owners to put their holdings to the best advantage. But the tax imposed was far too light to have the desired effect.

Yet, in spite of the haphazard way in which the problem of land resumption was tackled and the very light taxes and conditions imposed on the accumulators of large acreages, between 1896 and 1901 the cultivated area in New South Wales was nearly doubled. In the whole Commonwealth the cultivated area, between the same dates, was raised from 6,500,000 acres to nearly 9,000,000.

The task of the States in building up a rural population proceeded very slowly. In 1911 New South Wales had 5000 more agriculturists, Victoria 1000 more, and Queensland 200 fewer, than in 1891. Between 1901 and 1911 the population of the Commonwealth grew by 18 per cent—the number of persons engaged in pastoral

pursuits increasing by 36 per cent—but the agriculturists increased by only 4 per cent. Net immigration, during the first ten years of the century, was only 40,000. There were a large number of big estates, and in 1910 there were 1152 freehold estates of over 10,000 acres, with a total area of 30,600,000 acres—29 per cent of the land being held in holdings of one acre and more.

The aim of the Federal Land Tax of 1910 was to break up these large estates or to force the holders to make better use of the soil. The first taxation of unimproved land values was in South Australia in 1884; other colonies followed suit: New South Wales in 1895, Western Australia in 1907, Tasmania and Victoria in 1910, Queensland in 1915. Local Government Acts bestowed the power to levy taxes on unimproved land values. Thus there were three taxes on the same property. The State taxes were mainly small—from $\frac{1}{2}$ d. to $1\frac{1}{2}$ d. in the pound—but the new Federal tax was more severe. Exemption for residence was given on the first £5000 of unimproved value; absentees had no exemption. The tax ranged from 1d. up to 6d. in the pound, with an extra penny on absentees' holdings.

In 1914 the tax was extended from freeholds to cover leaseholds, and in 1914 and 1918 it was increased for war revenue. For example, a Queensland estate of £200,000 value paid in taxes on land some £10,500 per annum. A South Australian estate of the same value paid about £6900. Apart from local rates, large estates might be paying an annual capital levy of from three to five per cent on the unimproved value of the property.

While the Federal Land Tax achieved part of its purpose—to break up the large estates—it brought about a strange battle of wits between the owners and the tax-gatherers. Also it led to much litigation. Where the estates have been sold, the prices have usually been satisfactory to the vendors, but where the sales have not taken

place the owners have been able to meet the heavy taxation through the high prices ruling since 1914.

Between 1910 and 1918 land with the unimproved value of £63,000,000 (about one-quarter of the land originally subject to tax) had dropped from the taxation field into the "less than £5000" class. Much of this was due to the splitting up of large estates in families, to avoid taxation; but it is probable that many large holders parted with large areas.

During the above eight years owners of large estates in the class worth over £50,000 unimproved value, got rid of land worth £28,000,000 and bought land worth only £5,000,000 (unimproved value). Absentee holders sold about half of their estates, and many resident holders took steps to place themselves below the taxation line. Between 1910 and 1925 the number of estates of over 20,000 acres fell from 431 to 367; the number of estates between 5000 and 20,000 acres rose from 1592 to 2967 and the number of those between 500 acres and 5000 acres from 32,657 to 60,829.

The effects of the Federal Land Tax, assisted by the State and local taxations, were, in summary, these. There were two absolutely opposite movements in land. On the one hand there were men who were selling out to large holders desirous of creating big estates, possibly of turning arable land into pastoral country. Often the small blocks thus disposed of had been obtained, under the Conditional Purchase Act, from Crown or resumed and sub-divided, lands. On the other hand, very large holders were dividing up their lands either among their children or among share-farmers, or were selling outright to the Government for closer settlement. Thus, while land was being resumed and cut up for sale in closer settlement, the same classes of lands were being acquired for the formation of big estates.

The Seat of Government (Administration) Act of

1910 provided that the freehold of no Crown lands may be sold or disposed of except in pursuance of some contract entered into prior to the proclamation of the Act. Leases for business, residential, or special purposes, for 99 years, are granted within the city at rentals of five per cent on the unimproved value of the land, subject to re-appraisal during the twentieth year of the term and during each tenth year thereafter. Outside the city area leases for not more than twenty-five years may be granted for grazing, fruit-growing, horticultural, agricultural, residential, business, and other purposes, at rentals of five per cent of the assessed value of the land, including improvements which are the property of the Crown.

Throughout the history of Australia the tendency has been for the rural population to drift towards the cities and large towns. Retired farmers settle in the suburbs of the metropolis; the young people flock to the offices, the shops, and the factories; the rural districts entirely fail to retain their natural population, much less do they show a normal and necessary increase.

To check this flow to towns and cities by the building up of rural industries and by enhancing the social attractions of country life, is the great problem that confronts the Governments of Australia. Further, settlement has, in the older States, reached almost the limit of suitable land for cheap extensive exploitation. Western Australia and Queensland have still large areas of Crown lands suitable for selection, but in other States further progress in settling a rural population depends almost entirely upon closer settlement and more intensive cultivation of the lands already in use. New South Wales discovered in 1923 that she had to spend nearly £20,000,000 to settle 6000 new farmers. South Australia and Victoria can find room only by extensive resumptions.

In 1928 Crown lands occupied under various forms of tenure totalled 181,928,385 acres in New South Wales.

The area of the State not occupied is 16,104,885 acres, the greater part of which is reserved for public requirements, leaving but a comparatively small area for expansion of settlement. In a ballot for sixteen blocks of land at Honeybugel Station, near Nyngan, in August 1928 there were 4300 applicants. A few days into 1929 and 3000 persons entered into a ballot for thirteen blocks of land near Narrandera. During the whole year there has been very little settlement by migrants, only twenty-four having been settled on farms provided by the department. The latest report states that the prickly-pear ravages have been definitely stopped in the north-west of the State by the cochineal insect.

THE PROGRESS OF STOCK-BREEDING IN AUSTRALIA

Sheep. There were over 16,000,000 sheep in Australia when the stock returns were made up for the year 1850. By 1891 that number had increased to 61,000,000. The Australian squatter has developed the Australian merino as one of the most important factors of the world's markets. Nearly all the large stations have stud flocks for the purpose of improving and producing the highest-grade animals. Such flocks consist of sheep specially selected for their superior quality and pure breeding—a system that tends not only to raise the standard of the flock-sheep in general, but provides pure-bred flocks of known origin. Stud flocks have been common from the early days of the colony, as may be seen from the following prices realised for stud merino rams:—

John Macarthur, in 1825, sold merino rams for £300. In 1874 James Gibson of Tasmania sold "Sir Thomas" for 714 guineas. In 1885 D. Taylor of Tasmania sold "Hercules" for 1150 guineas. In 1906 the Hadden Rig stud of New South Wales sold "Dandy

Dinmont" for 1500 guineas. In 1915 the executors of the late F. C. Body of New South Wales sold "Lord Charles" for 2000 guineas. In 1925 F. B. S. Falkiner of New South Wales sold "Birdwood" for 1500 guineas. In 1928 F. D. McMaster of Dalkeith sold "David" for £5000. During 1883 the very big price of £3150 was paid to John Cummings for the ram "Lustre," from the Terrannallum stud flock.

Among the main established stud-flocks should be noticed the celebrated Wanganella stud, established in 1858, which, with the failure of the fine-woolled sheep in the hot dry districts of New South Wales, came into great prominence. Later it was shown that strong wool alone did not meet all the requirements. The original sheep, of Bayly (Havilah) blood, were from Canally. Rambouillet rams were imported and used in the flock. One of these, "Emperor," was remarkably prepotent, and the excellent and permanent qualities transmitted by him were mainly responsible for the present-day qualities which have made these sheep famous throughout Australia and South Africa.

The second stud-flock of note was established at Coonong by Sir Samuel McCaughey about 1860, and was devoted to ewes of the Camden strain and Bayly (Havilah) rams. Stud sheep from R. Q. Kermode of Mona Vale, Tasmania, were also used in developing this flock. In 1886 Sir Samuel, with the idea of improving the density of the fleeces, imported Vermont rams and ewes at a cost of £50,000. Before this purchase the same strain had been introduced into the flock through the progeny of "Old Grimes," the famous Vermont ram of 1865. The yolk and wrinkles ultimately condemned this breed, but the experiment showed the Australian breeder that bigger neck-folds and better thighs and covering could be put over the sheep by selections from local Australian breeds.

An important phase in the development of the Aus-

tralian merino sheep began about the year 1910. Big-framed sheep with plain bodies replaced the wrinkly type formerly so popular. The Wanganella type gradually came into demand not only in the different states of the Commonwealth but also in South Africa. About the year 1914 the export of rams and ewes to South Africa commenced, depleting many of the best flocks in New South Wales, Tasmania, and South Australia. Gradually, both in South Africa and Australia the demand increased for a plain-bodied type, developing size of frame and length of staple, maintaining density, and increasing the weight of fleece to over eight pounds.

The many advantages of this type are obvious. They are useful not only for the wool, but for mutton; they have a more robust constitution, a greater resistance to drought and also to blowfly, and a higher value in the fat-stock and store-stock saleyards. With the growing demand for carcasses for export, together with the expansion of cultivation, the various British breeds have become more and more popular, especially for the production of crossbreds. In 1910 there were 45,560,969 sheep in New South Wales.

By 1920 the number of sheep on stations in New South Wales had fallen to 33,851,828—about three-quarters of the totals for 1910. Within the next five years the numbers had recovered, the stock returns showing 42,925,177, with a marked tendency to increases.

Victoria had in 1910 some 12,882,665 sheep. "Port Phillip" wool had a place of high esteem among manufacturers for its length of staple, fineness of fibre, and brightness and purity of colour. Its outstanding characteristic is its comparative freedom from foreign matter, and it therefore usually commands higher prices than the wool from any other Australian State. In 1920 there were 12,171,084 sheep on the Victorian runs, and

by 1925 these had increased to 12,649,898, about 200,000 less than the peak year for the State, 1910.

In 1910 Queensland possessed some 20,331,838 sheep, nearly twice as many as in the year 1900 and over two millions more than in 1890. But 1910 proved to be the State's peak year in sheep production, and in following years there was a small but steady decline in numbers until 1920, when the flocks totalled only 17,404,840. There was then a smart recovery, and the totals for the year 1925 show the sheep in the northern State to number 19,082,252.

In Tasmania in 1910 there were 1,788,310 sheep, a steady advance on the years from 1900 on. The years following 1910 showed a slight decrease, the year 1920 having a total of 1,570,832. A slight recovery then took place, the figures for 1925 showing the number to be 1,614,085.

Of late years South Australia made steady advance in sheep breeding, the number for 1910—5,235,220—being more than a million in excess of that of 1900. Then followed a steady but small increase, the figures for 1920 being 6,359,944, and for 1925 but 704 less. In the Northern Territory for 1910 there were 57,000, but from that date the numbers quickly declined. In 1920 there were but 6062 sheep, and in 1925 a slight rise to 6194 head. Most of the sheep at the present date in the Northern Territory are on Government Experimental Stations, with one noted flock on Brunette Downs Station.

Western Australia possessed less than a million sheep up to the year 1880. From that date the advance was rapid. In 1900 there were 2,434,311 sheep in the State; these increased 5,158,516 in 1910 and to 6,532,965 in 1920. Then followed a slight decline to 6,396,564 in 1925.

Total number of sheep in Australia in 1926 being 104,267,101.

Cattle. A peak year for the cattle industry in New South Wales was followed in 1862 by a severe attack of pleuropneumonia.

In that year 2,620,383 head of cattle had wandered the colony's pastures, but in 1863-4 the number was reduced to 2,032,522, and many squatters replaced cattle by sheep. In 1866 the number of cattle had decreased to 1,771,809, and in 1867 to 1,728,427. From that date cattle commenced to increase again and in 1870 had passed the two million mark. In 1870 there were 2,195,096 head in the colony, but by 1890 the figures had decreased to 2,091,229. An official report, dated 1870, states: "The principal breeds of Great Britain—Shorthorned or Durham, Hereford and Devon—are to be found here (in New South Wales) in perfection. Pedigree stock is much sought for and realises high prices . . . the colonial animals are allowed to compete without restriction with the imported at Agricultural Shows, although formerly imported and colonial breeds were classed separately . . ."

During 1905 there were 2,337,973 head of cattle in New South Wales, including "large numbers of pure-bred stock, high-priced and of high quality" (Stock Inspector's report). Cattle were booming, for in 1900 there had only been 1,983,116 head in the State. In 1920 there were 3,375,267 on the run, but by 1925 the figures had decreased to 2,876,254.

Government regulations in Victoria made it imperative for squatters to have herds sufficient to justify claims to good areas of land in the coveted "western country." From the year of the Port Phillip settlement pastoral lands were in great demand. In 1850, when the discovery of gold called a temporary halt to pastoral activities, there were 346,562 cattle in the colony, and the output of tallow for the year was 10,009,246 lb., valued at £132,403. The cattle originally bred were Shorthorns

and Herefords, but the taste of the Victorian grazier tended always towards the Shorthorn, and gradually these assumed the ascendancy. Stud herds were formed, and a number of animals from English stud farms were imported. About 1890 polled Angus cattle were imported into the colony and came into favour, the climate suiting them admirably. By 1870 there were many stud herds breeding for export to other colonies, the New South Wales Chief Inspector of Stock reporting in that year that "next to English stock the colony has been indebted to Victoria."

During 1860 the cattle in Victoria numbered 722,332, including 197,332 milch cows. By 1870 the numbers had risen to 776,727, of which 212,193 were milch cows. At least eighty per cent of the stock was in the hands of the farmers—the best portions of the old runs having been taken up by selectors. In 1880 there were 1,286,267 head of cattle, of which 329,198 were milch cows, and in 1890 the stock had increased to 1,782,978 head. By 1910 the numbers had fallen to 1,547,569, and then there was a slight increase to 1,575,159 in 1920 and 1,605,554 in 1925.

Up to 1869 cattle and sheep dominated most of the settled areas in Queensland. From the first settlement at Brisbane, and from the Northern Rivers District of New South Wales, the squatters penetrated the State, at first holding tenaciously to the coastlands, but later spreading wide across the Darling Downs and the other great plain-lands of the interior.

In 1869 the sugar-cane industry found a footing in Queensland and gradually drove the squatters back from the coastal districts suitable for cane-growing. In 1859 there were nearly 433,000 head of cattle in the young colony, and within five years that number had doubled. De Satgé's *Journal of a Queensland Squatter* notes that on the Logan River, south of Brisbane, and in the

Moreton Bay district, cattle country was mainly freehold, and that the cattle were largely used in dairying. He continues that farther north there were many cattle stations in the Burnett, Isaacs, and Burdekin valleys and that the Cape York Peninsula was almost entirely taken up with cattle. On the rivers running into the Gulf of Carpentaria there was excellent cattle country, but only half-stocked. The boiling-down establishments at Normanton and Burketown were primitive, and those at Bowen and Townsville were out of reach. The coastal runs were well served in this respect with factories and freezing works at or near Brisbane, Toowoomba, Gladstone, Rockhampton, and St. Lawrence. The inland areas were served with establishments at Charleville, Barcaldine, Longreach, and Hughenden. All northern and western cattle were travelled to market on the hoof.

There were 3,162,752 head of cattle in Queensland in 1880; by 1890 they had increased to 5,558,264. Over the following years, to 1900, there was a rapid decline of over a million—to 4,078,191 head. By 1910 the figures had re-established themselves to 5,131,699, to increase to 6,455,067 by 1920 and remain fairly stationary to 1925, when the cattle in the State numbered 6,454,653.

During the early days of the colony of South Australia the year 1860 must be considered the peak for cattle. In that year they numbered 278,265, but in succeeding years there was a considerable falling-off, the numbers in 1870 being 136,832. Thenceforward there was a slight tendency to increase, and in 1880 there were 283,315 head.

South Australia has always been more of an agricultural than a pastoral country, the runs being restricted to the "outside country," including the Northern Territory. In 1895 there was a total of 636,824 head of cattle in South Australia and the Northern Territory. The breeds most favoured were Shorthorns and Herefords, and some

very fine studs have been established in the colony, one of the chief being that belonging to J. H. Angas, who in 1848 stocked his run with pure-bred stock brought from England by the South Australian Company.

In 1900 South Australia possessed but 214,761 head of cattle. In 1910 these figures had advanced to 384,862, but in 1920 there was a decline to 376,399. By 1925 the total of cattle amounted to 400,423.

In 1880 the Northern Territory began to make a move as a pastoral country. There is a very great difference between the 1880 and 1890 figures. In 1880 there were only 19,720 head of cattle in the South Australian northlands. By 1890 the numbers had increased to 214,094. A marked advance was made up to 1900, with 257,667 head; then came a quick and large jump, in 1910, to 513,383. In 1920 the increase brought the figures to 659,840, and in 1925 the total number of cattle in the Territory amounted to 851,351.

Western Australia did not make much progress as a pastoral country until after the opening of the north-west lands. Live stock was then shipped to the colony, and soon the country was taken up and stocked as far north as the Cambridge Gulf and the Kimberleys. In 1860 there were 32,476 head of cattle in the colony. The numbers increased to 45,213 in 1870 and to 63,719 in 1880. Then came the great jump up in numbers, following upon Alexander Forrest's great journey through the Kimberleys which resulted in the discovery of many millions of acres of first-class cattle country. In 1890 there were 130,970 cattle in the State. These increased to 338,590 in 1900 and to 825,040 in 1910. The rapid advance stayed there. In 1920 the numbers had increased to 849,803 and to 891,564 in 1925.

Tasmania has never been considered a cattle country; yet both pastures and climate are particularly suitable for stock. It is reported that in 1841 it was found profitable to

ship fat cattle from New South Wales to Hobart. In 1860 there were 83,366 head of cattle in the island colony. These had increased to 101,459 in 1870 and to 127,187 in 1880. In 1890 there were 162,440 in the island, and these grew to 165,516 in 1900 and to 201,854 in 1910. The steady advance was maintained through the following years, the figures for 1920 being 208,202, and for 1925, 225,740.

Horses. Horse-breeding in Australia may be said to have commenced with the importation of some excellent types of Arab, Welsh, and English breeds in 1826. Before that date the horses in use in New South Wales were of mixed origin. A large number had been imported from Cape Colony and from various parts of the East, especially India. To these had been added some stud stallions and mares imported by private individuals. As pastoral settlement extended and the demand for horses for station work increased, the breed deteriorated through careless mating. "The services of thoroughbred sires being unattainable or too expensive, colts, often of the most indifferent descriptions, were used in their stead and ran loose with little mobs of mares and fillies about the settlers' homesteads." Yet so great was the call for horses in the early days of Port Phillip that even "weeds" commanded fair prices. In consequence, the production of any kind of horse was pushed to the limit. Towards the end of 1843 so great became the production that three of these "weeds" could be purchased for the value of a good saddle.

There is considerable variety in the style and make of the horses in the various colonies. In Victoria there can be found the really heavy draught-horse. The draught-horses of New South Wales are distinctly smaller and lighter, in Queensland the horses are lighter still.

Partly on account of the suitable climate and partly because the pastoral work on large stations requires a

constant supply of hardy horses, Queensland and Western Australia have gradually forged to the front as the horse-breeding States of Australia.

In 1860 New South Wales contained 251,497 horses and consistently increased her numbers. In 1880 the figures were 395,984, and in 1890, 444,163. The steady advance was maintained through 1900, with 481,417 horses, till 1910, with 650,636. In 1920 the horses in the State numbered 663,178, and from that year there was a slight falling off in figures to 649,534 in 1925.

Victoria possessed 275,516 horses in 1880 and increased these by 1890 to 436,459. There was a falling off in 1900 to 392,237 horses and then a great advance to 472,080 in 1910. The year 1920 showed another advance to 487,503, while the years to 1925 record a slight decrease to 463,051.

Between the years 1880 and 1890 there was in Queensland a great advance in horse-breeding—179,152 for 1880 as against 365,812 for 1890. In 1900 there were 456,788 horses in the colony, and these increased to 593,813 in 1910. In 1920 the figures showed that the State possessed 741,024 horses, but by 1925 the stock returns gave only 637,436.

South Australia possessed 148,219 horses in 1880; in 1890 these had increased to 187,686. There then came a considerable decrease to 166,790 in 1900, and a marked increase to 249,326 in 1910. In 1920 the horses in the State had increased to 268,187, to fall to 244,111 in 1925.

In the Northern Territory there were in 1880 only 2372 horses. By 1890 these had increased to 11,919, and to 12,562 by 1900. In 1910 there were 24,509—a great advance. The period to 1920 showed another large advance—to 37,837—and the increase continued to 46,380 by 1925.

Tasmania had 25,267 horses in 1880 and increased these to 31,165 by 1890. The figures then remained

almost stationary, being 31,607 for 1900. An advance to 41,388 horses came in 1910, and then a decrease to 39,117 in 1920 and a further decrease to 37,785 horses in 1925.

Western Australia had in 1880 only 34,568 horses and increased these to 44,384 in 1890. Another advance to 68,258 came in 1900, and then a great jump to 134,114 in 1910. 1920 saw 178,664 horses in the State, but these had diminished to 170,563 by 1925.

THE PROGRESS OF THE WOOL INDUSTRY IN AUSTRALIA

THE first record of wool-marketing in Australia dates from the time when John Macarthur forwarded a few pounds of Camden wool to the English market, mainly as an experiment. He received so favourable a report that within a few years he was sending bales to the home-markets, and obtaining up to 10s. 4d. per lb. In 1807 the first quantity shipment is recorded, the amount being 245 lb.; it is said to have been of fine quality.

Local selling began when the wool-growers bartered their fleeces against their bills at the Government stores. Later, when private merchants were established, they took the wool against goods, forwarding large quantities to the London markets and receiving in return shipments of general merchandise. Later, when the trade expanded and money became more plentiful in the colony, speculative buyers came into existence. The first firm of wool-buyers of note was established by Thomas Sutcliffe Mort, who had come from England in 1838 to the employ of Aspinall, Brown & Co. He was subsequently one of the promoters of the Hunter River Navigation Company. Mort found himself out of employment in 1843 through the failure of his firm, and he decided to commence trading as auctioneer and wool-broker. In 1845 he initiated

the firm of Mort & Company, with the idea of assisting the small growers of wool to realise quickly on their clips.

Five years after Mort founded his auctioneering and wool-buying business in Sydney, Richard Goldsbrough arrived in Melbourne and established himself as a wool-broker. The fine clips of 1850-51 consolidated his position in the trade, in spite of the goldfields attracting over-great attention. In 1853 he founded the firm of Goldsbrough & Kirk, stock and station agents, buying stations on the Riverina. Four years later he decided to confine his activities entirely to wool-broking. In 1881, in amalgamation with another firm, he founded the business of R. Goldsbrough & Co., with a capital of £3,000,000. After his death the Melbourne firm, whose Sydney trade was almost equal to their Melbourne business, amalgamated with the Sydney firm of Mort & Co., founding the present-day firm of Goldsbrough, Mort & Co., one of the greatest wool-buying businesses in Australia. In 1880 Melbourne was the great wool-buying centre, handling 122,272 bales in that year, against Sydney's 50,000. Gradually, as New South Wales devoted her pastoral lands to sheep, the positions were reversed, and a decade later Sydney sales topped those of Melbourne.

In 1916 the usual auctioneering of wool had to be abandoned. In its place was evolved the Imperial Wool Purchasing Scheme, which lasted for a period of three and a half seasons and handled wool and sheepskins to the value of £202,578,922. Negotiations opened up by the Imperial authorities with the Commonwealth Government resulted in the sale of the balance of the 1916-17 clip to the Imperial authorities at 15½d. per lb. (on a "greasy" basis), plus 50 per cent of any profits on re-sale. A Proclamation, under the War Precautions Act, prohibited the sale of wool and dry sheepskins, and the trade was called upon to invent a new system of apprais-

ing the relative value of every lot of wool so as to bring out the whole purchase at $15\frac{1}{2}$ d. per lb. A central governing body was formed, consisting of representatives of every section of the industry—selling-brokers, growers, wool-buyers, manufacturers, wool-scourers, and fell-mongers—with a Government nominee as Chairman. This body was known as the Commonwealth of Australia Central Wool Committee and sat under the Chairmanship of Sir John Higgins. Detailed work in each State was delegated to "State Wool Committees," with similar representation to that of the Central Committee. A technical advisory board determined a practical scheme of appraising wool, and created a "table of limits" which constituted the most complete classification of wool ever attempted. It divided the clip of approximately 1,800,000 bales into 848 distinct types, and fixed the price for each in its relation to the purchase price of $15\frac{1}{2}$ d. per lb.

So successful was the Board that it was continued after the war, to 1920. The total number of bales handled by the Central Wool Committee was 7,156,616, which, plus charges, were valued at £166,977,382. It purchased under appraisement 179,763 bales of sheepskins (containing 17,398,580 skins), valued at £5,948,540. Wool-growers and others received:—first distribution, 5 per cent of appraised value, paid in cash (October 1920), £7,653,000; second distribution, 14.30951 per cent of appraised value, paid (July 30, 1921), in priority wool certificates, £10,000,000 (July 30, 1921) and in fully paid one-pound shares in the British-Australian Wool Realisation Association, Limited, £12,000,000 (July 30, 1921). Thus the grand total was £202,578,922.

Wool-marketing made great progress after the Great War. In 1924-25 there were total local sales of 1,587,750 bales, of which 653,200 were sold in Sydney, 382,743 in Melbourne, 165,693 in Adelaide, 84,903 in Perth, 267,641 in Brisbane, and 33,570 in Tasmania. In

the following season the sales were:—Sydney, 1,078,216; Melbourne, 690,284; Adelaide, 250,216; Perth, 124,396; Brisbane, 477,337; Tasmania, 34,885.

From all Australian ports between July and December 1928, there were despatched 711,826 bales of wool, valued at £30 per bale, or a total of £21,354,280. In June the National Council of Wool-selling Brokers of Australia estimated that the 1928-29 clip would realise 2,462,000 bales. In December it altered its estimate to 2,577,000 bales. This clip was sold for £60,873,662 and was a record clip for Australia, the average price being £24 19s. 11d. per bale. The total production for 1926-27 was 2,712,438 bales, but the prices were lower and the wool-cheques reached only £55,610,468—an average of £21 13s.

Unofficial figures place the 1928-29 clip at 2,600,000 bales. Even if the Council's estimates are accepted, the wool-cheque will be over £64,000,000. A record price, since 1924-25, of 43½d. per pound was paid on the Sydney market in December 1928.

Sheep exports are growing large. For the present South Africa is the chief buyer, but Russia has recently bid for high-class sheep, with the intention of stocking her immense pastures for the wool-trade. South Africa began importing Australian sheep about 1902; that country's wool industry had previously been hardly worth mentioning, but at the end of June 1927 the South African flocks totalled about 40,000,000 head, showing an increase of 7,000,000 in three years, the increase in wool-production being correspondingly great. Ten years ago experts stated that South Africa could not carry more than 30,000,000 sheep; six months ago another expert declared that "in thirty or forty years South Africa will probably shear 80,000,000 sheep."

THE PROGRESS OF AGRICULTURE IN AUSTRALIA

THE growth of agriculture in Australia has been largely influenced by railway construction. In 1850—the first year of the gold-boom—there were nearly 200,000 acres under cultivation. The discovery of gold had for the time a retarding influence on agriculture, bringing the acreage down by nearly half through the scarcity of labour. In 1852 there were only 132,000 acres under crop. But when commercial life adapted itself to the new conditions the acreage began to increase again; in 1858 there were 223,000 acres under cultivation. When the Hawkesbury and Hunter Districts were connected with the coast by railways, agriculture advanced to an acreage of 319,000, and through the two following years to 451,000 acres. In 1869 the railway penetrated southwards to the Goulburn plains and westwards to Bowenfels. In 1870 the acreage under cultivation was 426,976. From 1875 the rich Bathurst plains were brought into communication with the coastal districts, and in 1880 the area under the plough reached a total of 706,000 acres. In 1870 experts stated: “we can produce wheat of a quality that can stand the competition of the world, but we cannot do it at the necessary price. The cost of labour is too expensive for rude processes, and we have not yet attained to such proficiency in the use of labour-saving machinery as would counterbalance the rate of wages.” Up to 1896 Victoria supplied New South Wales with a very material portion of the food-stuffs required by the mother colony.

Tasmania, turning her cultivation more towards oats, peas, potatoes, and hops than wheat, developed acreage slowly. In addition, her lands were more heavily timbered and clearing was more expensive than on the mainland. Progress was also hindered by the old free-grant system of alienating large areas. For instance, up to

1864, 2,960,765 acres had been given away, and during the same period only 1,278,748 acres had been sold—and this in a small colony where great tracts in the centre and west were too rugged and too forest-covered to make cultivation profitable, and any great development was impossible after the early settlers had absorbed the rich and easily attained patches. In 1860 Tasmania had 152,860 acres under cultivation. These were a legacy from the days of the gold-rush in Victoria and New South Wales, when those colonies looked to Tasmania for many food-stuffs required to feed their fast-growing population of miners and traders.

Agriculture in Victoria received a great impetus from the protective tariff of 1871. The rates provided on imports were one shilling for every hundred-pound weight of grain and produce of every kind, twenty shillings a ton on onions and potatoes, and so on. And, it must not be forgotten that these duties did not apply only to oversea products, but to imports from the sister colonies surrounding Victoria. At the time when this tariff induced more farmers to put land under cultivation there were in the colony over 315 miles of railways to bring the crops to the populous areas. Yet Victoria was obliged to import a million bushels of wheat yearly.

In 1885 the Government of Victoria appointed a Commission to inquire what steps were necessary to further the production of vegetables and other products in larger quantities. In its report the Commission recommended a "judicious system of offering bonuses for new vegetable products and for the further development of vegetable products already established." By the end of 1890 over £370,000 had been paid in bonuses, and in 1894 the Commission claimed great credit for good work accomplished.

Victoria possessed great mallee lands, occupying the great bend of the Murray Valley from Swan Hill to

Murray Bridge, and in 1880 it decided to bring these under cultivation. Nearly eleven million acres of this country were cleared by heavy rollers and wooden frames dragged by traction engines. The timber thus crushed down was burned off, and the land was ploughed by stump-jumping ploughs (a recent local invention) and harrowed with stump-jumping harrows. The stumps of the trees were left to rot out or to be removed by other means at the farmers' convenience. In 1860 Victoria had under crop 387,282 acres. In 1880 these had increased to 1,548,809 and in 1900 to 3,114,132.

When Queensland was part of the colony of New South Wales, the land was considered purely pastoral. It was not until some time after the northlands had been created a separate colony that agriculture was seriously considered. At the date of the separation Queensland had only 3557 acres under cultivation, mainly about Brisbane, Warwick, and Toowoomba. During the American Civil War, and the consequent shortage of cotton in Europe, experiments were made in cotton-growing and for a few years Queensland cotton-growers made good money. When peace was declared in America the price of cotton fell, and the new Australian industry was nearly ruined.

While cotton-growing had occupied the Queensland farmers' attention certain people had been experimenting with sugar-cane. When cotton failed, a serious attempt was made to grow cane commercially. The influence of the successful cultivation of sugar-cane on Queensland agriculture can be seen from the acreage under cultivation during the intervening years. In 1860-61 there were 3353 acres under cultivation, none of which were under sugar-cane. In 1870-71 there were 52,210 acres, of which 6342 acres held cane. In 1880-81 the acreage had grown to 113,978, and of this 20,224 acres were in cane.

Three great inventions in this decade promoted the

advance of agriculture in Australia, and, indeed, in the whole world. The first was the stump-jump plough, invented by Robert Bowyer Smith, of Ardrossan, South Australia. In 1876 he and his brother Clarence Herbert constructed a plough with shares contained in a frame, working independently of each other. If one of the shares struck a stump or other obstacle, it automatically rose, passed over the obstacle, and re-entered the ground. On February 19, 1877, this plough was registered, but not patented. In 1881 J. W. Stott, a blacksmith of Alma, South Australia, who had constructed a similar plough, joined the Smiths and made improvements in their machine. In the new model several ploughs were hinged to an angle-bar in such a way that each had the same length of beam, and the beams were cranked so as to permit each mould-board to pass the adjoining beam. Without the stump-jumping plough the mallee lands of Victoria might never have been successfully cultivated. In 1881, owing to the use of the new plough, only 55 acres out of 426,338 taken up were forfeited, whereas the figures for the previous year (when the old-style plough was in use) were 2345 acres out of 34,245.

The second invention of note was the stripper-thresher. Shortage of labour in 1843 led J. W. Bull to experiment with a threshing machine to take the grain from the standing straw. Bull's work was improved on by J. Ridley, whose stripper revolutionised grain-growing by reducing the cost of harvesting from three shillings to threepence halfpenny. In 1884 H. V. McKay combined the previous inventions with new features in his "Harvester"—stripping, threshing, and winnowing by the one machine.

The third and perhaps the greatest invention was the life-work of William James Farrer. In 1875 he entered the New South Wales Department of Lands, and worked in the Dubbo, Cobar, and Cooma Districts until

1886. In that year he resigned his appointment and settled at Lambrigg, near Queanbeyan, where he began to experiment in hybridizing wheats, endeavouring to find rust-resisting or rust-proof varieties. For eleven years Farrer pursued his experiments on his own farm, developing his researches to include improvements in the milling values of wheats. In this endeavour he received the ungrudging help of F. B. Guthrie, chemist of the Department of Agriculture. In 1898 Farrer was made Experimentalist to the Department of Agriculture, a position which enabled him to obtain the widest field and greatest facilities for work which the Government had come to recognise as of vital importance to Australia.

The invention of the stump-jumping plough and the harvester resulted in a great increase of grain production. In New South Wales the improved methods were stimulated by the strain put upon the owners of unproductive lands by Reid's "unimproved values" land-tax. In 1895-6 there were 1,348,600 acres under cultivation. South Australia was devoting more and more of her lands to cereals. In 1880-81 she had 2,087,237 acres under crop, of which 1,735,542 acres (or 83 per cent) were in wheat. In 1900-1 she had 2,369,680 acres under crop, and of this area 1,913,247 were occupied by wheat. In Queensland there were, in 1880-1, 113,978 acres under crop, of which 20,224 (or 17 $\frac{3}{4}$ per cent) were occupied by sugar-cane. In 1900-1 the colony had 457,397 acres in cultivation, and 108,535 acres (or 23 $\frac{3}{4}$ per cent) were growing sugar-cane.

In 1905 Western Australia turned from the development of her goldfields to her golden fields of the southlands. The areas along the York-Albany Railway were settled, as were the coastal lands between Perth and Bunbury. In 1880-1 the State cropped only 57,707 acres, but in 1900-1 it had put 201,338 acres under grain. In 1895 the total area of wheat throughout the Common-

wealth was 3,500,000 acres. In 1898 the Chambers of Commerce in several colonies established definite f.a.q. (fair average quality) standards, thereby much assisting the wheat farmer.

In 1915-16 there were 5,796,376 acres under cultivation in New South Wales—more than double the acreage under crops (2,840,235 acres) in 1905-6. The drainage of manhood from the country, due to the war, was not compensated for by improved machinery and methods, and from 1916 the cultivated area dwindled. In new lands under cultivation Tasmania continued a steady increase on the 1900 figures, drifting, however, more to orchard work and intensive cultivation. In 1900-1 Victoria was easily the premier grain-growing State, having for that year 3,114,132 acres, and in 1920-21, 4,489,503 acres, under cultivation. Queensland in 1900-1 had 457,397 acres under cultivation, of which 43 per cent were under cane-crops. In 1920-21 the cropped area rose to 779,497 acres, but of this only 20 per cent grew cane. In 1900-1 South Australia had 2,369,680 acres under cultivation, and in 1920-21 had increased these to 3,231,083.

In 1920-21 there were 145,873,850 bushels of wheat grown in Australia, averaging 16.08 bushels per acre. In 1921-22 the crop had fallen to 128,868,842 bushels, averaging 13.28 bushels to the acre. In 1922-23 the yield had fallen still further, to 109,454,842 bushels, averaging 11.21 bushels. In 1923-1924 there was an upward tendency to 124,993,271 bushels, at 13.10 bushels to the acre. In 1924-25 that tendency was still maintained, and the wheat totalled 164,558,734 bushels, averaging 15.20 bushels.

During the same years the net exports of wheat and flour were as follows:—in 1920-21, wheat, 76,791,883 bushels, flour, 11,486,250 bushels; 1921-22, wheat, 99,946,993 bushels, flour, 11,989,915 bushels; 1922-23,

wheat, 31,510,334 bushels, flour, 18,936,048 bushels; 1923-24, wheat, 59,910,480 bushels, flour, 24,537,168 bushels.

In 1924-25 New South Wales had 3,549,367 acres under wheat. In Victoria in the same year 2,705,323 acres were under that grain. South Australia had 2,499,852 acres, and Western Australia 1,867,614. Queensland grew wheat on 189,145 acres, while Tasmania sowed only 12,954.

For the year 1928-29 the Australian wheat crop is estimated to produce an exportable surplus of 140,000,000 bushels, which at 4s. 6d. per bushel will realise £31,500,000. In New South Wales the Government Statistician estimates a crop of 48,000,000 bushels, but unofficial estimates place the crop as high as 50,000,000 or 55,000,000 bushels. The Department of Agriculture gives the official estimate as 45,000,000.

The *National Bank Magazine* estimates that the 1928-29 Australian wheat crop will produce 30,000,000 more bushels than in 1927-28. In placing Victoria's wheat-yield at 40,000,000 bushels the journal is giving that State credit for an increase of 14,000,000 bushels over the 1927-28 crop. In the November issue of the same journal the New South Wales wheat crop for 1928-29 was estimated at 43,000,000 bushels, but in a later issue it is admitted that the estimate was too low.

In New South Wales the wheat-growing area has increased from under 4,000,000 acres in 1927 to about 4,500,000 acres for the last season's sowing. All the indications point to a much increased sowing for next season.

The wheat yield in 1927-28 was just under 28,000,000 bushels. If the 1928-29 crop reaches fifty to fifty-five million bushels it will be the second highest crop in the State's history, and should return the farmers at least £11,000,000. At last sowing, large areas in the Lake Cargelligo region and beyond, hitherto regarded as

waste country, were put down to wheat and yielded heavily.

Maize, wheat, and oats were the first crops grown on Australian soil. In the earliest days maize was the main crop; later, wheat showed a tendency to usurp its place as a grain food. Hitherto the oats crops have never threatened the supremacy of wheat. Thomas Cherry, a former Victorian Director of Agriculture, considered that the oats crop "should be made to fill a much more important sphere in farming operations in all parts of the closer settlement country than it does at present."

During the 1900's wheat was a prominent crop in New South Wales and South Australia. In Victoria oats were grown more extensively than in all the other colonies put together. Tasmania was always a considerable grower of this cereal.

Though oats are a standard crop in Australia in all States, yet at no time in the history of the country has it been able to grow enough for its requirements. Since 1910 the cultivation of this grain has materially increased in South Australia and Western Australia. During the year 1924-25, New South Wales had 123,517 acres of oats in crop, yielding 2,511,400 bushels. Victoria's crop was on 517,229 acres and produced 9,572,003 bushels. Queensland had only 4010 acres under oats and from the crop took 63,912 bushels. South Australia took 1,939,415 bushels from 155,214 acres. Western Australia had 318,982 acres under oats and drew 4,241,074 bushels; while Tasmania took off 1,065,933 bushels from 46,175 acres.

Attempts to acclimatise cotton in Australia have been made from the first days of the colony. At that time it was considered that the cotton plant was not indigenous to the country. It was not until 1847 that it was even sus-

pected that a lint-bearing gossypium was native, and it was only in 1904 that the plant was discovered on the mainland.

The American civil war stimulated the growing of cotton in Australia. Between 1862-71 some 26,000,000 lb. of cotton were exported, and the area cultivated for cotton increased from 320 acres in 1862 to 10,974 acres in 1870 and 14,500 acres in 1871. Queensland cultivators then began to feel the effects of the renewed American competition, and from that date cotton-growing began to decline, until in 1917 only 87 acres were under cultivation.

In 1888 the Queensland Government tried to revive the industry by offering a bonus of £5000 to the first person or company who manufactured cotton goods to that value from fibre grown in the colony. The Ipswich Cotton Company thereupon established a factory and produced the goods, cotton cultivation in the West Moreton district being greatly stimulated by its operations. However, the firm was obliged to close down in 1897, owing to financial difficulties.

Much valuable information on cotton-growing has been acquired by Queensland growers during the past twenty years through the experiments initiated and encouraged by the Government. These experiments were undertaken not only in Queensland—where in 1901 Dr Thomatis obtained the hybrid perennial “Caravonica”—but also in the Northern Territory and Western Australia. In 1904 the Curator of the Botanic Garden at Darwin (N.T.) reported that, besides the native cotton found at the Wildman River, cotton plants of cultivated varieties were known in other parts of the Territory. Cotton has also been successfully grown in experimental plots in Western Australia since the 1880's. The Curator pointed out that Northern Australia held one great advantage over America in cotton-growing—that the Australian crop

ripened in the dry season, thus obviating the damage by rain to which the American crop is subject, and that also the strain of picking is lessened.

The long dry season of 1902 induced the Queensland Department of Agriculture to encourage cotton cultivation, not only for the lint but also as a fodder-crop. In 1903 a Commission was appointed to report whether cotton could be grown on a commercial scale by white labour. The Commission reported that a profit could be made by farmers who cultivated it in easily worked areas of from five to ten acres, but that large plantations were unsuited to Australian conditions. The Commission added that it was unlikely that farmers would begin cultivation unless they were guaranteed a minimum price for several years.

In the meantime the Federal Government was considering cotton-growing in the Northern Territory. The inquiries made suggested that before anything could be done on a commercial scale in the Territory an experimental farm should be established at Darwin, from which selected seed could be distributed, at first to selected growers.

The British Cotton-Growing Association, formed in 1902, investigated conditions in Australia, but were not impressed with the possibility of growing cotton with white labour. They decided to undertake no work in Australia, although prepared, if the State Governments would formulate definite schemes, to supply seed and machinery.

In 1907 the Federal Government offered a bounty of ten per cent of the market value of cotton grown and ginned in Australia, but with little result, only £420 being paid in bounties in seven years.

Cotton-growing was one of the subjects dealt with by the Dominions Royal Commission in 1913. The British Cotton-growing Association then offered, provided that

the Australian Governments concerned undertook to make experiments in cotton-growing over a period of three years, to contribute £100 per annum towards the cost; to provide seed for experimental purposes; to undertake shipment, marketing, etc., and to guarantee a minimum net price, in England, of 6½d. per lb. The Association provided that this offer was not to apply to the product of perennial varieties or to ratooned cotton, it being of the opinion that these classes were unsuitable for spinning and gave facility for the increase in cotton pests.

The Federal Government agreed to make provision for an expert to be attached to the Queensland Department of Agriculture to carry out experiments, but for some reason this agreement lapsed. During the war the area under cultivation slightly increased, the total quantity of raw cotton received at the Government ginnery being 9500 lb. in 1914, and 166,000 lb. in 1918. The chief deterrent to more extensive cultivation was the high cost of picking, especially as the pickers were inexperienced.

The Commonwealth Institute of Science and Research interested itself in the possibilities of the invention of a machine for picking cotton. A Committee was appointed in 1917 to carry out experiments, but the results obtained were not considered satisfactory.

During 1919 various indications pointed to the possibility of successful cotton-growing. Prices of labour in the United States and Egypt were advancing, and appeared likely to be raised considerably over future years. In addition, the Director of the Commonwealth Arsenal was interested to obtain from Australia, if possible, sufficient supplies for the requirements of the cordite factory. From 1913 the Queensland Government had made advances of 1½d. per lb. on seed cotton (increased to 2d. per lb. in 1918) and had it ginned for the growers, guar-

anteeing them 5½d. for good seed cotton. The bonus terminated in 1923.

The Commonwealth Government now came to the assistance of the growers, joining in the guarantee given by the Queensland Government, and the British Association insured it up to £10,000. The British-Australian Cotton-growers' Association was organised, and erected factories at convenient centres, not only for the ginning of the cotton but also for the extraction of seed-oil and the manufacture of oil-cake. Additionally, an independent firm had organised a spinning factory.

In the result, the area under cotton had increased from 72 acres in 1919 to 40,062 acres in 1925, and the yield of unginned cotton for 1925 was over 19,000,000 lb. The guarantee for 1925 was a series of rates from 5¼d. down to 2½d. according to quality; ratoon cotton was not under the guarantee. In spite of the high price of cotton in the world's markets, the Queensland Government lost over £300,000 on the guarantees, the Commonwealth Government sharing the losses. In 1925 the Empire Cotton-growing Corporation—an English institution—decided to contribute £3000 per annum to the maintenance of experimental plantations in Australia. Two such plantations exist: at Biloela, south of Rockhampton, and at Monal, on the Upper Burnett River.

Louis Hope set sugar-cane growing on a commercial basis in Queensland. In 1862-63 he had twenty acres under cane in the Moreton Bay District. In 1864 he introduced kanakas to work on the cane-fields, and in 1867 was thanked and given a grant of land by the Queensland Parliament "for his successful demonstration of the suitability of the Queensland climate to the growth of sugar-cane."

In 1864 sugar companies were formed in Brisbane, Maryborough, and Mackay. By the end of 1869 there

were twenty-eight mills crushing the produce of 1230 acres, 5000 acres in all being under cane. For several years there was steady development in the industry, till in 1876 the cane-fields were almost destroyed by rust. A harder type of cane, maturing in one season, was then introduced. At this time the output of sugar was about 15,000 tons. At the height of the panic and the financial crisis brought about by the failure of the crop, McCready, of Mackay, demonstrated for five consecutive seasons that sugar could be produced at a cost of not more than £10 per ton, and the industry recovered so completely that in 1878-79 there was a "boom" in sugar-cane farming. In 1883-84 there were 157 mills crushing from 27,792 acres (out of a total of 43,367 acres under cane) and producing 34,148 tons of sugar and 144,073 gallons of rum.

In 1885 the Queensland Government voted a sum of £50,000 for loans towards the erection of Central Sugar Mills. The money was to be divided between the North Eton and Racecourse Mills, both situated in the Mackay district. This loan demonstrated the advisability of the Central Mill, for, from the inception of the two mills above-mentioned, the large sugar-growing estates began to be sub-divided into small farms, of from 50 to 100 acres each, and leased or sold on reasonable terms, thus settling hundreds of small farmers on the land.

While the erection of central mills did much to encourage the industry, there was yet a period of depression. The Queensland Government appointed a Royal Commission to inquire into the industry and to formulate plans to revive and maintain its prosperity. From the reports of this Commission the Sugar Works Guarantee Act was formed. The Act authorised advances, by way of guaranteed loans, for the establishment of sugar mills. Under it a group of farmers can form themselves into a co-operative society and, by mortgaging their lands to the Govern-

ment, obtain the money necessary to erect a mill. The mill is their property and has to be worked under their management, subject to the lien the Government has over it for the repayment of the money advanced for its building.

The year before the passing of the Sugar Works Guarantee Act of 1893 kanakas had been re-introduced to work the cane-fields. They were brought in under strict Government supervision, each vessel carrying them having an accredited Government agent on board. The kanakas were engaged for a term of three years and at the end of that term might either be engaged for a further term or be repatriated. They were paid a minimum of £6 per head per annum, with board, lodging, and clothing, the value in all being about £37. For the return of the islanders the planters paid £5 per head and 30/- for supervision. The latter was later raised to £3. There was also a hospital capitation fee of 10/-, subsequently raised to £1. The kanakas who were re-engaged were termed "over-time boys" and were free to make their own agreements for wages, usually getting from £20 to £30 per annum. Kanakas were prohibited from working outside the cane-fields areas.

The employment of thousands of black labourers in the cane-fields aroused indignation among the white workers. For many years the agitation for the abolition of kanaka labour was great. The whites contended that the kanakas took the bread out of their mouths, and the planters retorted that, even if white labour could stand the tropical heat of the cane-fields and there was sufficient of it, the higher rates of pay would make the industry unproductive to the grower who had to face world-competition. The deadlock came to an end during the first year of Federation, the Commonwealth Government terminating kanaka labour after 1904. In 1900-1

there were 108,535 acres of cane grown in Queensland and 92,554 tons of sugar produced.

During 1902 some 68 per cent of the cane in the sugar-growing districts was grown with black labour. In 1906 over 6000 Polynesians were deported and for a time something resembling chaos reigned in the industry. Matters gradually became normal, under the bounty of £2 per ton maximum offered by the Commonwealth Government on sugar manufactured from cane grown exclusively by white labour. In 1914 only four per cent of sugar-cane was produced by coloured labour. In 1912 a Sugar Bounty Abolition Act and Sugar Excise Repeal Act were passed by the Federal Parliament, to come into force whenever the Queensland Parliament should prohibit the employment of coloured labour. In 1915 the Commonwealth assumed control of the Australian sugar output, paying the growers a fixed price—£18 per ton, subsequently raised to £21 per ton. The Government disposed of the refined product at £25 10s. per ton, the retail price being fixed at 3d. per lb. In 1910-11, 141,779 acres of cane were planted and 210,756 tons of sugar produced in Queensland. In 1916-17, 167,221 acres were planted and 176,973 tons produced.

In 1920 the Commonwealth Government entered into an agreement with the sugar-cane farmers to cover the years 1920-22, by which the price of raw sugar was fixed at a minimum of £30 6s. 8d. per ton. This raised the wholesale price of refined sugar to £49 per ton, with a retail price of 6d. per lb. At the end of the 1922 season the agreement was not renewed, but the embargo against the employment of black labour was continued for another two years, on the condition that a pool, free from Government control, was formed to buy raw sugar for the next season at not more than £27 per ton. In 1923 the retail price of sugar was reduced to 4½d. per lb. This proved satisfactory, and the price of £27 a ton for raw

sugar was continued for 1924-25, the embargo against black labour being continued till June 1925. Later the embargo was extended for a period of three years from September 1925 by agreement between the Commonwealth and Queensland Governments.

In 1923-24, 219,965 acres of cane were grown in Queensland, with a yield of 269,175 tons of sugar. In New South Wales, in the same season, the acreage was 17,315 and the tonnage produced was 16,829. During the year 1924-25, 253,519 acres were under cane and 407,454 tons of sugar were manufactured in Queensland.

In New South Wales sugar-cane growing was first regarded seriously in 1865, when 141 acres of cane were planted in the Clarence, Richmond, and Tweed districts. By 1875 the area had increased to 6454 acres and fifty mills were in operation. From then on the area under cultivation in the State steadily increased, until in 1895 it reached the total of 33,000 acres, with more than a hundred mills crushing. Then came the turn of the tide, and the acreage under cane steadily declined, many important cane-growing districts being converted to the dairying industry. In 1900-1 New South Wales had 22,114 acres of land under cane and the yield was 19,938 tons. By 1910 this area had been reduced to 14,000 acres, and in 1919 a further reduction had taken place—to 10,500 acres—the cane-growing being still further superseded by dairying and maize growing. From 1919 on there were signs that sugar-cane was coming back into favour in the old growing districts. In 1924-25 there were 19,993 acres of cane growing for the production of 26,682 tons of sugar.

In Victoria, after the collapse of the beet-growing company at Geelong in 1872, little was attempted in the industry until 1896 when the Government offered to assist a new Company with £100,000. Substantial buildings and plant were erected at Maffra in Gippsland, and

local landowners guaranteed to grow 1500 acres of beet. Two campaigns produced 617 tons and 348 tons of sugar respectively, and the plant and buildings then fell into the hands of the Government and were closed down.

Again in 1910 energetic measures were taken in Victoria to encourage the growth of sugar-beet. Experimental plots were grown, lectures instituted, and large areas at Boisdale and Kilmany Park—both places in railway communication with the Maffra Factory—were divided into small holdings and bounties were offered to growers. Since that date there has been continued progress, and the last records, with the increase in the price of sugar, showed a profit of £8000. Proper irrigation would assure the future of an industry which, one grower stated, is more profitable than dairying or pig-raising, while requiring less capital for its institution. In 1910-11, 458 acres produced 5969 tons of beet. In 1914-15, 990 acres produced 10,343 tons of beet; in 1916-17, 15,159 tons were grown on 1320 acres.

The growing of beet-sugar continued to attract farmers in Victoria. In 1923-24 29,512 tons were produced from 1937 acres. In 1924-25 the acreage had dropped to 1897, from which 24,468 tons of beet were taken. The sugar produced from the 1924-25 crop totalled 3017 tons. In 1923-24 growers were paid 37s. 6d. per ton for the beet and the factories realised a profit of £19,016.

Tobacco-growing has always been a problem in Australia, in spite of the fact that very good leaf grows over many areas in the country. Experiments commenced in the early days of New South Wales, yet in 1848 only 201 acres were planted, producing 309 cwt. of leaf. By 1851 the area was increased to 731 acres and the leaf cropped reached a total of 12,530 cwt.; then followed a remarkable falling off in the industry. In 1854 only eight acres were planted. In 1856 there were 218 acres under

tobacco, with a yield of 2813 cwt.; in 1860 the crop had enlarged to 9704 cwt., from an area of 240 acres.

By the year 1860 a number of small tobacco factories had been established in New South Wales. There was one factory at Port Stephens, three at Dungog, eight at Maitland and one each at Petersham and Sydney. The quality of the leaf produced was inferior—"dark, strong tobacco was in favour."

During the 1880's the industry looked likely to take firm root in the colony. In 1881 the area was 3154 acres, producing 31,708 cwt. of leaf. The area increased in 1888 to 6641 acres planted, with a crop of 70,251 cwt.; but this crop was far too large to be absorbed by the home market and was not well enough handled for export. The growers lost heavily, and the area planted the following year, 1889, decreased to 4194 acres, producing 31,847 cwt. of leaf. By 1894 the Government awoke to the necessity of stimulating the industry in some manner, but the farmers grew steadily fewer, apparently not caring for the amount and kind of labour involved in proper cultivation, and the industry fell almost entirely into the hands of the Chinese resident in the Upper Macquarie, Upper Namoi, and Tumut districts. In 1900 the total area of tobacco cultivation was only 973 acres—199 acres in New South Wales, 109 acres in Victoria, and 665 acres in Queensland.

In Queensland tobacco culture received little attention. In 1865 certain Chinese planted 19 acres. In 1888 this was increased to 117 acres. Then, in 1899, the Government having obtained the services of an expert from the United States of America, some 77,571 lb. more leaf was grown than in the preceding year. The tobacco industry in Queensland is more or less centred in the Texas and Inglewood districts and on the fertile flats of the Dumaresque River, extending over the State border into New South Wales. Cigar leaf is grown in the

Bowen district, the Texas product being pipe-tobacco. In the State there were only 182 acres under tobacco in 1902, but by 1905 the area had grown to 752 acres.

In Victoria the cultivation of tobacco was left in the hands of Asiatics. In 1859 there were 66 acres under leaf. By 1878 this had increased to 1936 acres. From that date the crops fluctuated largely, the maximum year being 1886, when 2031 acres were under cultivation.

In 1897 the Victorian Government, in an endeavour to foster the industry, offered a bonus of 3d. per lb. on locally grown leaf approved for export, but the conditions surrounding the offer were too stringent to encourage the industry, and in 1901 the offer lapsed.

Private enterprise established a tobacco plantation in 1890 at Rumjungle in the Northern Territory. An expert was brought from India to supervise the plantation, and for several years tobacco of a high quality was grown, some parcels realising 10s. 9d. per lb. When the owner of the plantation died, the enterprise was abandoned.

After the war efforts were made by the Governments and the tobacco-buyers to encourage the growth of the Australian leaf. An agreement was made between the growers and the buyers that in 1925-27 the buyers should purchase a minimum of 1400 tons of flue-cured leaf, divided as to half from each of the two States then growing tobacco—Victoria and New South Wales. A sum of £3700 was to be advanced to the growers for the erection of flue-barns, but after the 1925 season no sun-dried leaf was to be accepted. In 1924-25 there were 2149 acres under tobacco, 719 acres in New South Wales, 1228 acres in Victoria, 166 acres in Queensland, and 36 acres in South Australia. During the 1923-24 season the amount of Australian tobacco used in manufacture was 1,122,825 lb.—about seven per cent of the total amount manufactured.

Under rice, Queensland had in 1898 an area of 863 acres, and reaped an average of 14.19 bushels to the acre. In 1899 Northern Queensland produced 14 per cent of the Colony's annual consumption, 82 per cent of the total yield coming from the Cairns district. In New South Wales the cultivation of rice was attempted in 1892 with seed imported from the Central Province of India; the results were discouraging.

In 1899 there appeared every reason to believe that rice had taken stand beside sugar-cane as a Queensland national crop. But by 1900 the area under cultivation had fallen to 319 acres. This decrease was attributed to the fact that banana-growing was at that time more remunerative.

In 1911 New South Wales again tried to grow rice commercially, and again the results were disappointing. In 1916-17 a variety named "Takasuka" was tried at Yanco, but unfortunately the growing crop was eaten down by locusts. In 1922-23 a further experiment took place at the Yanco farm, a large experimental plot being sown with a variety named "Wataribune." The results this time were favourable, the crop yielding 3223 lb. per acre, as against only 2727 lb. at the rice-experiment station at Crowley, U.S.A., whence the seed had been obtained.

Although banana plants had been grown in Australia from the time of the first settlement, little was accomplished in establishing the industry until after the year 1890. Up to that date, banana cultivation had been confined to the frost-free eastern slopes of Queensland and New South Wales, but the fruit had been grown successfully as far south as Gosford and Newcastle, although the results had not warranted the establishment of commercial plantations.

Records are in existence of successful banana-growing on the north coast of New South Wales before 1865.

Queensland has at least three native varieties of bananas growing in the rich scrublands of the north, but they are of little food-value. All the bananas cultivated in Australia are imported varieties, chiefly the Chinese or Cavendish, the Sugar, and the Lady's Finger.

At the beginning of the twentieth century the industry began to assume commercial proportions in Queensland. Bananas were first grown in the districts around Brisbane, and, taken farther north, flourished exceedingly in the Cairns, Innisfail, Tully River, and Mulgrave districts, where soil, climate, and rainfall are conducive to the production of fine fruit.

About 1890 banana cultivation had become extensive in the above districts, where the soil is rich, and heavily timbered. In the early days of the industry in these districts the owners of the land, wishing to save the cost of expensive clearing, leased the ground to Chinese for terms of years. The Chinese cleared the land and planted the bananas, reaping very heavy harvests, since the ground was full of potash and the banana is a gross feeder. When the Chinese leases expired and the owners took possession of what they believed to be fruitful plantations, the crops began to fall off, for the plants had taken most of the food out of the earth. Many growers were unwilling to pay for manures; others did not realise the extent of manuring required by this plant. The plantations began to fail. Lack of sufficient food in the soil brought disease and finally the root-boring worm appeared. At the beginning of the year 1900 the industry gave every sign of being wiped out; the owners pulled up the plants and put the land under sugar-cane.

The total banana crop for 1924-25 was valued at £831,285, grown on 15,005 acres. The plantations suffered severe loss in 1922-23 through a disease known as "bunchy-top." In 1924 another previously unidenti-

fied organism was discovered in the roots, corms, and leaves of the affected plants, and this is being experimented upon as a possible source of the disease.

While coffee grows extremely well in the warm north-eastern corner of New South Wales, it has rarely been grown commercially in Australia. In many of the coastal districts of Queensland coffee was planted about 1890 and grew to perfection, but in consequence of the labour troubles and the low prices realised many planters abandoned the experiment. A few plantations continued to grow coffee until well into the 1890's.

From 1890 onwards a few coffee plantations existed in Northern Queensland, struggling against adversity. The maximum plantings, so far, have reached 547 acres. This was in 1901-2. In 1908 there were 285 acres under crop, producing 116,293 lb. of (Parchment) coffee. The chief producing areas, in those years, were Cairns, Maroochy, Mackay, and Maryborough. From 1908 there has been a consistent diminution of the planted area.

During the period immediately following the separation of Queensland from New South Wales the former colony grew maize extensively. Nearly the whole of the crop was, and is, grown in the Moreton Bay, Darling Downs, Wide Bay, and Atherton districts. In 1909 the State Department of Agriculture acclimatised a large number of varieties from America. Both in Queensland and New South Wales the Governments supplied seed to the farmers, purchased, classified, and graded their produce, and distributed seed for the next growing season after season. In Victoria the area under maize, though smaller than in New South Wales, was more productive. With the aid of fertilisers good results were obtained from the sandy soil along the coast-line.

In 1924-25 Queensland had 229,160 acres under crop for a yield of 7,330,827 bushels, valued at £1,435,619. New South Wales had slightly more than half that area under cultivation, and from 146,564 acres took 4,208,200 bushels of the value of £824,106. Victoria, the third largest maize-growing State, had only 23,126 acres in crop and gathered 891,987 bushels, of the value of £189,547. Western Australia put only 71 acres under the grain, for a crop of 333 bushels. The Federal Territory sowed 21 acres for a yield of 420 bushels, and South Australia only seven acres, producing 276 bushels.

The average acre-yield of maize for the Commonwealth for the ten years 1914-24 was 24.59 bushels; compared with the crops in the United States of America (the principal maize-growing country of the world) it is lower by 4.73, but compared with that of other countries it is very satisfactory. A small but fluctuating trade in the export and import of maize is entirely dependent on the success or failure of the local crop. In 1915-16 nearly 4,500,000 bushels were imported; in 1923-24 the excess of imports over exports was 2,534,891 bushels. The export trade in corn-flour is, for the time, small. In 1924-25 it was 19,177 lb., valued at £490. A moderate amount is imported annually, the principal sources of supply being Great Britain and the United States. The imports for 1924-25 were 299,198 lb., valued at £5273.

A total of 346,091 tons of potatoes were grown in Australia during the year 1924-25. Of this Victoria grew nearly half, her acreage being 61,196, with a yield of 169,863 tons. Tasmania was the next largest grower, and from 32,109 acres took 82,094 tons. New South Wales came third with 23,044 acres, growing 49,485 tons. The other States—Queensland, South Australia, and Western Australia—between them grew 44,649 tons on an area of 16,691 acres.

An attempt to introduce hop-growing into Victoria was made in 1883. An area of 1758 acres was planted and proved fairly successful; but the cultivation apparently did not appeal to the Victorian farmers and the area planted dwindled until in 1917 only 87 acres were under crop.

In Tasmania hop-growing has always been successful. From 1870 onwards production fell little short of 1,000,000 lb., annually. In the 1880's high prices for hops stimulated planting to such an extent that over-production occurred, bringing down prices and nearly ruining the industry.

The total area of hops planted for the season 1924-25 was 1806 acres, of which 1494 were in Tasmania and 269 in Victoria. The imports during this year exceeded exports by 157,424 lb., of a value of £12,967.

THE PROGRESS OF VITICULTURE IN AUSTRALIA

Up to 1850 New South Wales was the principal vine-growing colony. Three of the vineyards planted in the early days of the colony are still producing—Kirkton, near Singleton, was planted in 1830; Dalwood, near Maitland, also in the thirties; Bukulla, in New England, was planted about 1848-49. Victoria in 1860 had 1138 acres of vines and steadily extended her area until 1887, when phylloxera called a temporary check. In 1880 she had 5000 acres under vines, and in 1885 nearly 10,000. In South Australia the progress of the industry was steadier, encountering no checks through disease.

Wine-making has kept pace with the extension of the vineyards. In 1803 a small quantity of poor wine was made near Sydney. In 1823 Gregory Blaxland, the explorer, succeeded in making good wine at his farm on the Parramatta River and was awarded medals by the English

Royal Society of Arts. James King's wines secured European recognition, and in 1854 South Australian wines were praised at the Paris Exhibition. At the Melbourne Exhibition of 1881 the German Emperor offered a trophy to "an exhibitor of one of the Australian colonies as an acknowledgment of the efforts in promoting Art and Industry shown by the high qualities of the goods manufactured by the exhibitor." The trophy was won by the St. Hubert vineyard.

Australia had 6237 acres of vineyards in 1860-61. By the year 1865-66 these had increased to 13,577; in 1870-71 to 17,227; in 1875-76 there were 15,563 acres; in 1880-81 15,515; and in 1885-86, 22,271.

In 1920-21 viticulture occupied a total area within the Commonwealth of 81,165 acres, of which South Australia had 36,661; Victoria 29,255; New South Wales 10,783; Western Australia 3210, and Queensland 1256. For the season 1924-25 the area had grown to 91,314 acres for the Commonwealth. Of this South Australia grew 43,361 acres and produced 10,502,381 gallons of wine, 1156 tons of grapes, and 248,831 cwt. of raisins and currants. Victoria, from 31,723 acres of vines produced 1,368,765 gallons of wine, 2672 tons of grapes, and 471,943 cwt. of raisins and currants. New South Wales from its 10,954 acres of vineyards produced 1,171,264 gallons of wine, 3590 tons of grapes, and 24,133 cwt. of raisins and currants. Western Australia, from 4139 acres, produced 223,761 gallons of wine, 2069 tons of grapes, and 20,529 cwt. of raisins and currants. Queensland—the only State with fewer vines in 1924-25 than in 1920-21—produced from 1137 acres 33,119 gallons of wine and 961 tons of grapes.

THE PROGRESS OF DAIRYING IN AUSTRALIA

THE Illawarra district has, from the early days of the colony, been recognised as the most important dairying centre. Gradually the industry spread from that centre southwards into the districts of Ulladulla, Moruya, and Bega, until almost a whole county became devoted to the industry.

At Shoalhaven, Alexander Berry formed a fine herd of dairy cattle and in 1849 exported considerable quantities of butter to California. The spread of the industry evolved a good-class dairy-cattle, known as the Illawarra Shorthorn—probably from crossings of Ayrshires with milking Shorthorns.

During the 1850's butter sometimes sold as high as 2s. 6d. to 3s. per lb. wholesale; but in the summer months the prices fell, sometimes as low as to 6d. per lb. Then butter was exported to the other colonies, principally Victoria. The export of butter during 1853 was 79,990 lb., valued at £6636. "The progress of dairying from 1852 to 1883," writes J. P. Dowling, "was made under the old system, advances being made at Bodalla, south of Moruya, by the late Thomas Mort, and by Messrs. Fox, Tooth, and Wren and other energetic settlers at Bega. In these districts were established factories furnished with all the best American cheese-making appliances, and the South Coast soon obtained a great and lasting reputation for cheese and bacon."

The introduction of cream separators at Mittagong by the Fresh Food and Ice Company in 1881, and of the co-operative factory system at Kiama in 1884, greatly promoted the industry. D. L. Dymock, of Kiama, had been for years advocating co-operation and herd-testing. For the purpose of acquiring oversea methods of dairying he

travelled extensively in Europe and America and brought to Australia the first Laval cream separator. The co-operative factory system gradually gained adherents. In 1888, eight factories were working, each costing from £1500 to £2000, and taking milk from an average of fifty dairymen. About this year butter was exported to London in the cool chambers of the mail steamers and was sold at from 10½d. to 1s. per lb. This experiment stimulated the industry in a remarkable manner. It was followed by exports to Queensland, Western Australia, Batavia, Calcutta, Bombay, Singapore, and Hong Kong.

In 1891 the quantity of butter made in New South Wales under the old system was 10,484,474 lb., and that made in factories 8,049,656 lb. A year later (1900) the old system produced only 4,216,134 lb., while the factories produced 18,817,747 lb. In 1891 there were 124 butter factories to which milk was delivered, there being no local creameries and home separators. In 1900 there were 168 butter factories and 387 creameries in the State.

At the end of the year 1888 there was a remarkable development in dairying in the sub-tropical Richmond River district. This district had been, up to then, chiefly occupied with the growing of sugar-cane, but the great fall in the price of sugar ruined many, and the Government, when appealed to, suggested dairying as an alternative industry. Much of the country was cleared and dairy cattle were obtained, mostly from the south-coast districts. New settlers arrived; co-operative butter factories and creameries were established, and in a few years the largest butter factory in the world was in full operation in the Byron Bay district.

General dairying instruction was provided for farmers and their families by the New South Wales Government in 1902. A travelling dairy was equipped and sent on a tour of the State. A well-equipped dairy for the

instruction of students was provided at the Hawkesbury Agricultural College. Similar provisions for instruction were made at the Wagga, Bathurst, Richmond River, Grafton, and other experimental farms. A Dairy Stud Farm was established at Berry, in the Illawarra district, with dairy cattle of the best breeds, obtained from England. An expert in cheese-making travelled round the agricultural districts, giving instruction in the making of high-class cheese.

In New South Wales the Dairying Industry is chiefly regulated by the Dairies' Supervision Act of 1901. Dairy-men, milk-vendors, and the proprietors of creameries and dairy factories must be registered. Inspections are made by District Inspectors under the supervision of a Chief Inspector.

Little legislation was enacted in Australia for the Dairying Industry during the period 1919-28. The trade was well established and making good progress. Within the Commonwealth there were 2,055,638 dairy cows in 1920 as against 2,444,637 in 1925. During the same period the production of milk increased from 623,285,221 gallons to 862,393,709, that of butter from 208,081,864 lb. to 313,959,291, and of cheese from 24,150,534 lb. to 31,442,292. Only in the production of concentrated, condensed, and powdered milk was there any retrogression. Between 1910 and 1920 this part of the industry rose from 12,491,261 lb. to 70,944,482, but by 1925 the production had dropped to 62,009,230 lb.

Of the above figures New South Wales produced in 1921-25 from an annual average of 797,890 dairy cows; 260,975,000 gallons of milk; 89,711,932 lb. of butter; 6,518,285 lb. of cheese; and 7,661,191 lb. of condensed, concentrated, or powdered milk.

A Commission appointed by the Victorian Government reported that the Victorian farmers were slower to adopt new methods than their brethren in the Illawarra

district of New South Wales, and, to stimulate production, recommended that bonuses should be given for butter and cheese manufacture, and that model dairies should be established for demonstration. The recommendations were adopted by the Government, and throughout the colony co-operative butter factories were established. In 1889-90 the production of butter for export from Victoria amounted to only 828,882 lb. By 1892-93 it had increased to 8,099,258. The cheese industry had also developed largely, especially in the Western District and, to a lesser extent, in Gippsland. To encourage this branch of the dairying industry the Government obtained the services of a Canadian expert. In 1890 a factory was established at Bacchus Marsh for the manufacture of preserved and concentrated milk on a commercial scale. By the end of the century the earlier Shorthorn and Hereford cattle were being gradually replaced or crossed with Ayrshires, Jerseys, and other dairy breeds. At the same time the work of cutting up large estates for dairying purposes was accelerated.

Queensland did not turn serious attention to dairying until 1888, when the Government obtained the services of a dairy expert. A well-equipped travelling dairy was purchased and instruction given to farmers who desired to extend their activities into this industry. At this time there were barely half a dozen cream-separators in the colony, and there was no modernly equipped factory for either cheese or butter. Progress was steady, and by 1895 the importation of butter and cheese into the State had practically ceased.

Queensland farmers quickly took up the dairying industry as illustrated by the Government expert with the travelling dairy. In 1888 the amount of butter produced in the colony was 1,500,000 lb. By 1894 it had reached nearly 5,000,000 lb., together with 1,536,997 lb. of cheese. The chief dairying districts were Warwick,

Brisbane, and Toowoomba. The first experiment in exporting cool-storage butter from Queensland was made in 1895, some seven and a half tons being shipped. Further to encourage dairying a tax was levied on dairy cattle, the proceeds being used for the erection of butter and cheese factories, or for a bonus on the industry. In 1896-97 some 63 tons of butter were exported. During the next season the Dairy Expert reported that dairy cattle had increased in value at least 70 per cent during the year, and that land, previously unused because unfit for agriculture, was carrying dairy herds. Steps had been taken to improve the herds, but the supply of well-bred cattle was very inadequate.

During the year 1900 there were 53 butter and cheese factories and 146 creameries in the State, employing 595 persons. The output for that year was 5875 tons of butter and 886 tons of cheese, the total value being £656,177; 620 tons of butter were exported. At that time Queensland dairy produce had to be sent to Sydney by intercolonial steamers and there transhipped into the European boats.

The Queensland Dairy Produce Act of 1905 revolutionised the industry. It provided not only for the inspection of dairies, dairy-farms, and factories, but for the appointment of Grading Inspectors to classify butter intended for export. In 1908 an Amending Act insisted that cream should be graded for manufacture into different qualities of butter, and that no person should be allowed to grade cream until he had obtained a certificate of proficiency.

A year or two earlier the necessity for transhipping in Sydney dairy produce intended for England was avoided by inducing the Orient Line of mail steamers to call at Brisbane, the Government paying a subsidy of £26,000 per annum.

In 1920 the Government passed a Dairy Produce

Act applying to the whole of the Queensland coast from Rockhampton southwards, as well as to the Darling Downs, Maranoa, Mackay, and Cairns districts. It is administered by the Department of Agriculture, and under it, in certain proclaimed areas, the sale of milk is confined to persons licensed under the Act of 1917. The sale is supervised by Inspectors from the Department of Health.

A large proportion of the Queensland industry is undertaken on the share-system. At Toogoolawah, in the Brisbane valley, a condensed milk company has six model farms, comprising 4000 acres, of which 1200 are under cultivation for maize, lucerne, millet, and other grains. The average annual figures for the period 1921-25 are: Dairy Cows, 565,364; milk, 139,784,080 gallons; butter, 56,257,563 lb.; cheese, 11,611,324 lb.; and condensed, concentrated, or powdered milk, 11,355,319 lb.

Butter and cheese have been Tasmanian products and exports since before 1858. According to M. H. Hull, butter and cheese were exported from Tasmania about that time to the value of £16,000 per annum, the price of butter averaging 2s. per lb. The stock cattle used were Ayrshires, Herefords, and Devons. "These animals," he writes, "are taking the place of the cross between the bison and Brahmin cows which we used to have, and which had to be knocked down with a long pole and roped head and feet before they could be milked. At one time it was no unusual thing for the milkman, after a turn of seven miles in the bush, to be tossed in the air by one cow and his shins kicked by another before he could succeed in inducing her to part with the usual pint of milk for the family's breakfast."

For many years Tasmania was backward in developing the dairying industry. In 1903 there were only fifteen butter factories, producing less than a million pounds of butter, and the output of cheese was little more

than half-a-million pounds. But after 1900 the State awoke to the possibilities of the industry. At first progress was slow, but by 1920 long steps had been taken. The average annual figures for the period 1921-25 are: Dairy Cows, 68,567; milk, 20,808,000 gallons; butter, 5,528,124 lb.; cheese, 1,049,549 lb.

South Australia made an improvement in dairying matters about 1885, when the Government began to assist farmers by instruction in dairying methods and facilitating the export of dairy produce. In 1890 the colony exported to England some 10,850 lb. of butter; in the following year it doubled the supply. By 1893-94 it was producing nearly six millions pounds of butter and nearly a million pounds of cheese. In 1896-97 the approximate quantities of butter and cheese were respectively 9,000,000 lb. and 1,750,000 lb. The average annual figures for the period 1921-25 are: Dairy Cows, 130,819; milk, 42,231,276 gallons; butter, 14,883,999 lb.; cheese, 3,176,368 lb.

An official Western Australian report in 1891 recommended dairying as an industry that could be followed with advantage in the coastal area of the State from the Moore River to Cape Leeuwin, and inland to the dividing range. But as late as 1911 the industry remained practically undeveloped, though during 1910 butter to the value of £342,771, preserved milk valued at £78,492, and cheese worth £36,805 had to be imported. In June 1912 the Chief Inspector of Stock reported that dairy cattle in the State had diminished by about 3000 head in the one year. To encourage settlers to take an interest in dairying the Government established a State farm at Brunswick where pure Ayrshires are kept and bred. The numbers of dairy cattle in the State were small until 1916, when the returns showed that there were 33,788. Then followed more rapid development. The Public Health authorities regulate the dairying industry; the

premises of dairymen and milk-vendors are supervised and registered by the Health Inspector; officers of the Department of Agriculture examine herds at regular intervals and apply the tuberculin test where disease is indicated. For 1921-25 the figures of the average annual output in the State are: Dairy Cows, 59,587; milk, 12,898,974 gallons; butter, 2,848,202 lb.

THE PROGRESS OF FRUIT-GROWING IN AUSTRALIA

FOR nearly a hundred years after Governor Phillip landed in Australia fruit-growing was considered of little account as an industry. Yet throughout the settled portions of the country fruit grew in abundance. In the southern part of the east coast (Queensland) bananas and pine-apples thrived and proved adaptable along the warm coastal belt as settlement moved northwards. The mango, passion-fruit, granadilla, paw-paw, guava, orange, apple, peach, and plum were also quickly acclimatised. In New South Wales the county of Cumberland and neighbourhood as far as the Kurrajong on the west and Gosford on the north proved the chief fruit-growing districts, citrus fruits predominating. Tropical fruits were grown in the north-coast district and cherries thrived in the Orange district and in the colder areas of the tablelands. Apples, pears, peaches, plums, apricots, and melons were widely distributed. Loquats were grown as a breakwind as well as for the fruit.

In Victoria, the apple, peach, plum, apricot, cherry, and pear were the principal varieties grown, while raspberries, gooseberries, and currants were cultivated in the cool elevated districts. In Tasmania apples were the main crop; currants, raspberries, and gooseberries were widely distributed. Some pears and plums were also grown. In South Australia, the apple, pear, cherry, prune, and

the berry fruits grew well in the highlands around Mt. Lofty and Barossa, in the ranges behind Port Pirie, and in the south-east. Citrus and stone-fruits grew well on the plains and in the low-hill country. Olives had been grown from truncheons sent out from Marseilles in 1844, and at the Intercolonial Exhibition of 1851 had received honourable mention for clearness, colour, and flavour of the oil. Olive culture did not flourish to any great extent until the Government published a pamphlet on the subject written by W. R. Boothby after a tour through the olive-growing districts of Europe. In Western Australia, the apple, orange, peach, pear, plum, fig, and apricot were chiefly grown.

Exports overseas were non-existent until 1880, when, from the county of Cumberland in New South Wales, attempts were made to open up an overseas trade, the first consignment being a cask of oranges and lemons successfully forwarded to Dublin. In spite of the success of this venture the risks of transport were too great for the experiment to be developed commercially, and export languished. The initiative in the commercial export of fruit was taken by Tasmania, when improvements in refrigerating machines permitted the harder fruits to be shipped without injury. In 1884, 100 cases of apples were shipped from Hobart; in 1887, over 4000 cases were sent overseas; before 1914 the trade had grown to nearly a million cases annually.

The introduction of irrigation into Victoria and New South Wales had a marked influence upon the fruit-growing industry. Irrigation settlements, devoted primarily to fruit-growing and viticulture, have been developed along the Murray Valley and in the areas watered by the Goulburn in Victoria, the Murrumbidgee in New South Wales, and private irrigation schemes in the south-west of Western Australia. To find an outlet for the products of these districts attempts were made to open up

home and oversea markets for fresh citrus and canned and dried fruits, on the demand for which the future of the irrigation settlements depended. The irrigation districts are producing good citrus fruit. The Washington navel orange has been specially cultivated along the Murray and Murrumbidgee. Choice oranges are also grown by irrigation from the artesian bore at Pera, near Bourke. The overseas orange market is on the way to being firmly established. The Australian growers were extremely fortunate in that oranges shipped in July-September could be placed on an empty market in Great Britain. In addition to the citrus industry the settlers are devoting special attention to canning and dried fruits.

In 1922 the Commonwealth Government called a conference of representatives of the fruit-growing industry. The result was the creation of a Federal Fruit Council, with an Advisory Board in each State to advise the Governments of the Commonwealth and the States on all matters relating to the business. In 1925, the Fruit-growers' Federation eulogised the work of the Council and the Boards.

In 1924-25 the areas devoted to fruit-growing in Australia totalled 276,904 acres, of which 73,972 were in New South Wales, 83,358 in Victoria, 31,738 in Queensland, 33,329 in South Australia, 18,520 in Western Australia, and 33,992 in Tasmania.

The net export of fresh fruits in 1925-26 was 146,444,200 lb., with a value of £1,518,697. In 1918-19 only 7,152,600 lb. had been exported, valued at £98,347. The expansion was due to the development of the overseas markets and the decline of imports, due mainly to the protective tariff on Fiji bananas. In 1924-25 the Commonwealth produced 6,638,459 bushels of apples, valued at £2,379,247, and of pears 1,632,267 bushels, valued at £403,325.

The net export of dried fruits in 1925-26 was

43,641,537 lb., returning £1,321, 495. The net export of jams and jellies was in the same year 2,474,941 lb. worth £73,634, a large decrease since 1918-19, when military orders were still being placed in Australia.

Towards the latter part of 1928 an Australian firm sent a consignment of concentrated orange and lemon juice to London. The market rushed it. The firm received by cable an order for 5000 gallons, together with an intimation that further business would follow. This was significant in view of the fact that Australia has over-produced citrus fruits and that, unless a demand for them or their products is created in other countries, there will be considerable loss. There is little opportunity of shipping fruits to England and Europe, because of the close proximity of other citrus fruit-growing countries, but there is a great opportunity of shipping fruit-juices, especially when concentrated five to one. This saves large freights and containers. It is possible that in the future there will be a great outlet for citrus fruit products from Australia, bringing in foreign money and giving employment to many.

THE PROGRESS OF BEE-FARMING IN AUSTRALIA

BEE-FARMING has made little progress in Australia except in Victoria, where legislation has been passed to organise bee-pastures. The Forest Department administers the Act. A bee-farm site is an area of up to ten acres. A bee range is an area of a mile radius from the bee-farm, to be used as a foraging ground. The bee-farmer rents the tops of the trees only; he has no rights over the land or the grass.

The return of honey from productive hives during the year 1924-25 gave an average of 74 lb. of honey per hive. This yield is second only to that of the 1917-18

season, when the figure rose to 76 lb. In 1919-20 the yield per hive was very low, but 1920-21 was, judging by the records of a number of years, fairly normal.

THE PROGRESS OF AGRICULTURAL EDUCATION

AGRICULTURAL Education was instituted by the New South Wales Government during the year 1888. A Department of Agriculture was founded, establishing a complete system of Government farm-schools, apprentice-schools, experiment farms, and demonstration farms throughout the colony, with a complete head Agricultural College at Richmond, on the Hawkesbury River. The college is the largest in Australia, providing for some 200 resident students. The farm has an area of 3440 acres, of which about 1000 are under cultivation. At an additional farm of about 116 acres of rich alluvial soil on the banks of the Hawkesbury River a complete system of irrigation is carried out in order to train students who intend to take up farming in the irrigation districts.

The South Australian Government established an Agricultural College at Roseworthy in 1885. It opened with fifteen students and soon became popular. The college has about 2000 acres, 100 acres being under vines and fruit-trees, and the rest divided between experimental work, general farming, and live-stock raising.

In Victoria an Agricultural College was established in 1885 at Dookie, on the fringe of the Goulburn Valley, between Shepparton and Benalla. It has an area of 5920 acres. Another college has been established at Longerenong in the Wimmera District, eight miles from Horsham, with an attached farm of 2386 acres. Both colleges have over 1000 acres under cultivation. The revenue from 155,480 acres of Crown Lands is set apart for the upkeep of these institutions, which are controlled

by a Council of eleven members—five nominated by the Governor-in-Council and five elected by Agricultural Societies in the State. The Director of the Department of Agriculture is an ex-officio member of the Council and its Treasurer. Dookie has accommodation for 100 students; Longerenong for 52; approximately 2000 have passed through these colleges.

During 1895 the Queensland Government founded a College for Agricultural Education at Gatton, on the main southern line about 55 miles south of Brisbane. It has accommodation for 60 resident students. In 1923 the College was re-organised as the Queensland Agricultural High School, and was placed under the Department of Public Instruction, which feeds it from the State Rural Schools. Boys are admitted from the age of fourteen, or earlier in exceptional circumstances. There are senior and junior courses of three years each, and in their sixth year the students specialise in either dairying or agriculture. At the apex of the system is the University course in Agriculture. The College farm comprises 1692 acres, 800 of which are under cultivation. Particular attention is paid to dairying and to the building up of pure-bred herds of Jerseys and Illawarra Shorthorns.

In 1914 Western Australia established a School of Agriculture at the Narrogin State Farm, situated on the Great Southern Railway some 162 miles from Perth. The College provides a two years' course for seventy resident pupils from fourteen to sixteen years of age. The aim is to impart a sound general education as well as the skill necessary to make efficient farmers.

THE PROGRESS OF IRRIGATION IN AUSTRALIA

THE development of Irrigation Schemes in Australia was retarded for many years by the opposition of

persons holding riparian interests, private irrigators not having even such security of priority right in using river waters for irrigation purposes as obtained in the Western States of America up to a few years ago. Consequently, except for the primitive irrigation by Chinese market-gardeners, little interest was taken in the development of irrigation until 1884, when Commissions were appointed by the Governments of Victoria and New South Wales to inquire into water conservation and irrigation.

The Victorian Commission delegated its Chairman, Alfred Deakin, to visit the Western States of America and there examine irrigation methods. His report, submitted in 1885, formed the basis of the Victorian Irrigation Act of 1886, which vested all riparian interests in the Crown, and made provision for the declaration of Districts most suitable for irrigation and for the construction of head-works of a national character. Further, it made it competent for the Government to advance capital required for local works to trusts formed by the settlers in suitable districts. These trusts were empowered to levy upon irrigated lands rates that would cover interest charges at four and a half per cent and a sinking fund of one and a half per cent.

In 1887 irrigation works were started at Mildura on the Murray River, in the heart of the mallee country. Two blocks of land of about 25,000 acres each were made available to the Chaffey Brothers, and they erected a Siki plant which, with its four 6-inch pumps, lifted water from the Murray into a lagoon whence it gravitated to the required levels to irrigate 12,000 acres.

The area is administered by the First Mildura Irrigation Trust, which was constituted in 1895. Holdings under the early settlement schemes varied from 400 to 600 acres and were too large for intensive cultivation. It was estimated, for example, that only half the water from the Goulburn works was utilised.

The schemes in the Goulburn-Loddon Districts were developed by trusts. At the beginning of 1900 arrangements had been made to intercept the Goulburn by a weir forty feet in height, and to divert the summer supply into two channels. Similar works had been erected in this district on the Campaspe and Loddon rivers and on the south bank of the Murray. In the total, arrangements for diverting 294,000 cubic feet per minute from the Murray and its tributaries had been completed either directly by, or with the sanction of, the Victorian Government. Owing to the irregularity of the flow, the scheme was only partially successful, since preparations for the distribution of the water had been made before it had been conserved.

Work on the Waranga reservoir was therefore begun, but before it was completed the trusts were in financial difficulties, and the Victorian Government decided to administer directly all irrigation schemes except Mildura.

By the Victorian Water Act of 1905, a State Rivers and Water Supply Commission was established. The most important works under its control are connected with the Goulburn River Gravitation Scheme, which supplies an area of 870,000 acres in the valleys of the Goulburn, Campaspe, and Loddon, for irrigation, domestic purposes, or stock watering.

During 1925-26 the area irrigated in Victoria was 343,685 acres, of which 116,753 were under lucerne, 95,327 were growing cereals and annual fodder crops, 69,108 acres held vineyards, orchards, and gardens; and the rest were pastures, etc. In addition to the land irrigated there were large areas in the north-west (principally in the Wimmera and Mallee districts) supplied with water for domestic and stock purposes. The total area of country lands artificially supplied with water for these

purposes during 1925-26 was 14,400,000 acres. In 1924-25 the Shepparton Co-operative Canning Factory put up 526,000 dozen cans of fruit from irrigation areas, and during the past five years the supply of fruit has increased to so great an extent that co-operative companies have been formed at Ardmona and Kyabram. The number of water-acres supplied during 1924-25 was 39,212. Over 26,000 acres were under vines—18,515 in bearing. The yield was: grapes, 82,019 tons; raisins, 3191 tons; sultanas, 1186 tons; currants, 4654 tons. Wine totalling 393,720 gallons was made.

The Royal Commission on Irrigation appointed by the New South Wales Government in 1884 sat until 1887 and issued three reports. Little was done apart from constituting the Municipal Councils of Wentworth, Hay, and Balranald as Irrigation Trusts for the erection of pumping plants and the construction of distributory channels in their districts.

In 1896 the New South Wales Government took over all riparian rights for irrigation purposes, provision being made for the issue of licences to private irrigators. In the following year (1897) a distinguished Indian officer visited the colony with a Commission from the Government to report on certain proposals for irrigation works. He selected the Murray and Murrumbidgee as rivers on which projects might prove successful. A Water and Drainage Act provided, *inter alia*, for the expenditure of £1,000,000 on the construction of hydraulic works within the succeeding five years and an Act of 1906 empowered the Government to begin work on the Murrumbidgee. This comprised a concrete dam across the Murrumbidgee River at Burrinjuck, with a maximum depth of storage of 200 feet and a capacity of 771,641 acre-feet; a movable diversion weir across the Murrumbidgee at Berembid, forty miles up-stream from Narrandera, including a lock, sluice-way, and fifty-five chanoine wickets,

which can be lowered to pass freshets. The main canal, with a capacity of 2000 cubic feet per second, takes off from the river immediately above the weir and extends for a distance of over ninety miles to below the town of Griffith. There are numerous subsidiary canals for serving the irrigation areas, together with bridges and other structures, roadways to each farm, and a general surface drainage system. Butter, bacon, and canning factories have been provided for treating the products of the areas, which are chiefly used for the growth of fruit and for dairying.

In the meantime small irrigation areas at Curlwaa and Hay were completed and served by pumping from the Murray and Murrumbidgee rivers. The Curlwaa system has a pumping capacity of 12,500 gallons per minute. During 1925-26 some 5493 acre-feet of water were supplied. The length of the main channels is about ten miles. The machinery at Hay is capable of pumping 4000 gallons of water per minute. During 1925-26 some 3270 acre-feet of water were supplied with nine pumpings.

During 1924 work was commenced on the development of a much larger area at Coomealla, for which water will be pumped from the Murray River. Investigations were also made as to the possibility of damming the Lachlan River at Wyangala, the Macquarie at Burrendong, and determined. In 1924 a "Private Irrigation Act" was the Hunter, Namoi, and Peel rivers at sites not then passed, to foster private irrigation works.

In 1928 the great Wyangala dam, to cost at least £2,000,000 was well under construction. When finished, it will change the aspect of the wheat-belt and add millions of pounds annually to the State's harvest returns. Within the scope of the great water highway will come millions of acres of western grazing lands. These leases will expire in 1943, but legislation passed by the late

Labour Government gives power to terminate the leases on payment of compensation and to settle the areas on conditional purchase and conditional lease tenures. Water-roads and connecting railways will bring a dense population to the Lachlan valley and beyond. In fifteen or twenty years the hitherto arid and despised western region will add another 2,000,000 acres to the wheat-belt and raise the New South Wales harvest from 50,000,000 bushels to 100,000,000. The British Government is in partnership with the New South Wales Government in the adventure and is advancing the money. Linked with the Wyangala irrigation scheme is the question of migration and a great land-settlement scheme. Nearly 1,000,000 acres of Crown Lands, which will carry between 600 and 700 families, will be opened up, in addition to the large areas of privately owned property.

In the New South Wales Yanco-Mirrool Irrigation areas there were, on November 1926, 1955 farms with a total of 100,755 acres. In 1925 there were approximately 8724 acres under deciduous fruit-trees, 5519 under citrus fruits, 7640 under vines, and 2200 under rice. There were 866 town blocks on the settlements, and the estimated population was 13,000. The Hay and Curlwaa Settlements are on the same basis. At Curlwaa there are 10,550 acres divided into irrigable and non-irrigable holdings. Of the irrigable area there are 1298 acres of orchards and vineyards, of which 1099 are in full bearing; there is also a small acreage of lucerne. The estimated weight of dried fruits produced at Curlwaa in 1924-25 was 11,000 cwt., the principal yields being sultanas, 4760 cwt., and currants, 2630 cwt.

The Hay Irrigation Area in 1926 held 4500 acres, of which 1035 divided into blocks of from 3 to 34 acres were used for irrigation. Dairying is the principal industry.

The Coomealla Irrigation Area is on the Murray

River, about nine miles from Wentworth. The first section to be made available comprises 3090 acres, of which 2314 have been sub-divided into 129 horticultural farms and 43 residential holdings.

In 1893 the Renmark Irrigation Scheme was put under the control of a Trust by the South Australian Government. There was little other irrigation work undertaken in the colony until 1910, when the State joined Victoria and New South Wales in the great Murray River projects.

Queensland had in 1926 an area of 21,000 acres under irrigation. Under the Irrigation Act of 1922 a Commissioner for Irrigation was appointed with wide powers. His chief work has been to develop the scheme for the utilisation of the waters of the Dawson River. An arched concrete dam, which is projected at Nathan's gorge, will impound 2,500,000 acre-feet of water, and the submerged area will be 83,177 acres. In November 1926 the first section of the Dawson Valley area—comprising 35,000 acres, divided into 373 farms—was opened for settlement, a pumping system being provided until the gravitation scheme is completed. The whole area, 300,000 acres, is designed to be divided into 7000 farms. An agreement that came into force in 1917 between the Commonwealth, New South Wales, Victoria, and South Australian Governments provides for the conservation and distribution of the waters of the Murray and its tributaries, under the control of the Murray River Commission, comprising representatives of the signatory Governments. Provision has since been made for the construction of the Hume Reservoir—situated just above Albury, on the junction of the Murray and the Mitta-Mitta rivers—with a storage capacity of 1,100,000 feet. This has been increased to 2,000,000 feet. By December 1928 this reservoir had cost £6,500,000, or nearly £2,000,000 more than the original estimate.

THE PROGRESS OF MINING IN AUSTRALIA

Coal. Coal, the first mineral to be found in Australia, was discovered by a party of escaping convicts, north of Port Jackson—possibly at Port Stephens—in March 1791. Six years later some wrecked seamen, making their way overland to Sydney from the Ninety-Mile Beach in Victoria, discovered coal near Bulli. Nothing was done with the finds until 1801, when Governor King established a settlement on the Hunter River (Newcastle) to obtain coal and timber, at the same time issuing a Proclamation that coal in that district was a Crown monopoly. For some time mines were worked by the Government. They were then taken over by the Australian Agricultural Company under a monopoly granted by the Imperial Government.

In 1886 Edgeworth David located a coal seam near Abermain, tracing it to Cessnock. In 1889 a syndicate acquired 250 acres of this new field and began commercial coal-mining.

In 1857 the first workings were made on the Bulli coal-fields, and in 1858 the Bellambi Colliery was opened. Developmental work followed, and in 1862 the South Bulli pit was opened.

Coal-mining on the western fields commenced in the 1860's, the Hartley measures being opened up at Bowenfels in the Lithgow valley, and at Coorwull. In 1869 the output from this field was 1360 tons.

In 1847 W. B. Clarke asserted that workable coal would be found under Sydney. Borings carried out towards the end of the century proved the existence of the coal, but no attempt was made to work it until 1903, when the Sydney Harbour Collieries Company was formed to work a seam at Balmain, near Sydney. After many vicissitudes the mine, which had a depth of 2784 feet,

was temporarily abandoned in 1917. From that date it has been worked spasmodically.

A few scattered beds of coal, of minor value, occur in outlying parts of the State. In 1915 sub-bituminous black-coal measures were found to underlie an area of about 23,000 acres in the Riverina District. These deposits have associated with them a large over-burden of kaolin of high quality, the profits from which, it is hoped, will go towards the cost of mining. A company was formed to work this deposit, and a shaft has been sunk at Coorabin, but no serious attempt has been made to utilise the lignite deposits which occur in various localities, or the Triassic coal measures of the Clarence and Richmond river districts, which are intersected by bands and contain a large percentage of ash.

The yield of the three main coalfields of the State for the year 1925 was:—Northern, 7,637,953 tons; southern, 2,052,963 tons; western, 1,705,283 tons; making a total for the State of 11,396,199 tons. The whole Australian output for the same year was 13,626,777 tons. In 1925 there were produced 609,418 tons of coke, valued at £942,448.

In Queensland valuable seams of anthracitic and semi-anthracitic coal were found between the Mackenzie and Dawson rivers. Two collieries near Baralba, on the Dawson River line, are now worked, one by the State and the other by the Mount Morgan Gold-Mining Company.

Since 1919 the Queensland Government has worked a coal-mine in the Bowen field. In the Cook district the beds cover more than a thousand square miles. In 1925 the yields in the chief mining centres were:—Ipswich, 614,055 tons; Darling Downs, 108,274 tons; Wide Bay, 119,704 tons; Central, 30,978 tons; Clermont, 62,204 tons; Bowen, 128,497 tons; Mt. Mulligan, 35,852 tons; Mt. Morgan, 70,097 tons: total output, 1,177,173 tons.

According to the Government Geologist the actual reserve is 412,000,000 tons, and the probable reserve 2,201,000,000 tons.

In addition to black coal Victoria possesses extensive fields of brown coal and lignite. Little effort was made to utilise these until 1917, when an Advisory Board recommended the establishment of an open-cut mine at Morwell. In 1925, 876,468 tons of brown coal were produced.

In 1908 an extensive field of coal was discovered in the Powlett River district, the seam being of good, clean, hard coal, averaging six feet thick. The Victorian Government decided to work the field, and in 1909 the establishment of a State coal-mine was legalised. Operations were begun towards the end of the year, and a township, Wonthaggi, was laid out on modern lines. The production of black coal in Victoria in 1925 was 534,246 tons, of which 468,146 were produced by the State mine at Wonthaggi.

In 1889 true coal was found in the Collie district of Western Australia, which borings proved to be about fifty square miles in extent, with seams of a total thickness of about 137 feet. The Collie railway was built and operations begun, the output in 1915 being 437,461 tons. Coal has been discovered in Tasmania, and the yield for 1925 was 81,698 tons, over 66 per cent coming from the Cornwall and Mt. Nicholas collieries. The island possesses beds of lignite and brown coal, not yet exploited.

The total production of coal in Australia for the year 1927 was 13,522,960 tons, valued at £12,039,766, and of brown coal 1,455,482, valued at £220,003.

Copper. The earliest discovery of copper is said to have been made at Macquarie Harbour, Tasmania, in 1827. In New South Wales it was first found in January 1829. The first certain discoveries of the ores were made in

South Australia at Kapunda, near Adelaide, in 1842. Samples of these were sent to England and, on a favourable report being received, a mine was opened. In 1845 a shepherd named Pickett found outcrops of copper ore at Burra Burra, about 100 miles north of Adelaide. On the biggest of these was established the famous Burra Burra mine, which in thirty years produced about £5,000,000 worth of copper and paid £800,000 in dividends on a nominal capital of £12,320, none of which was called up.

In Western Australia the first actual finds of copper ores were made south-east of Perth in December 1846. In 1860 mines were opened at Wallaroo and Moonta in South Australia, and in 1862 at Peak Downs and Mount Perry in Queensland. In Victoria the only deposits of size were found at Walhalla in Gippsland. At Cobar in New South Wales, where copper was discovered in 1869, the richer surface ores were at first sent by team to Bourke and shipped down the Darling River to smelting works at Port Adelaide. In 1920 most of the copper mines at Cobar were closed down and the plants dismantled. At Wallaroo and Moonta operations have been more continuous than elsewhere in Australia. The Moonta Company was the first in Australia whose dividends accumulated to a million pounds, and in 63 years the two mines produced nearly £20,365,000 worth of copper ore and paid over £2,600,000 in dividends.

In Tasmania no discoveries of copper of a commercial value were made until 1893, when the Mt. Lyell goldfield, north of Macquarie Harbour, was found to contain plentiful supplies of native ore. In 1909 the Mt. Elliot Company opened copper reduction works at Selwyn. Similar works were opened at Kuridala in 1911.

The principal fields in which copper is being, or has been of late years, mined are near Cloncurry and at Mt. Morgan in Queensland; Cobar and Tottenham in New

South Wales; Wallaroo and Moonta in South Australia; West Pilbara and Northampton in Western Australia; and Mt. Lyell in Tasmania. In 1917 reduction works were opened at Mt. Cuthbert.

At Mt. Morgan, which was worked for many years solely as a gold-mine, copper-smelting began in 1906, the blister copper being sent to Port Kembla in New South Wales for final treatment. The collapse in copper prices after 1918, followed by repeated strikes, resulted in the closing down of this mine in 1921-22; later it was reopened, and a second closing down occurred in September 1925.

In 1917 Queensland (chiefly Mt. Morgan) produced 19,062 tons of copper. In 1923 the production had fallen to 6242 tons, and in 1925 to 3908. In New South Wales (chiefly Tottenham) 6576 tons were produced in 1917, but by 1925 this had fallen to 478. In South Australia (chiefly Moonta and Wallaroo) 7213 tons were produced in 1917, 3523 in 1923, and only 570 in 1925. In Western Australia (chiefly at Northampton) 1501 tons were produced in 1917, 1057 in 1923, and 1201 in 1925. Tasmania (chiefly Mt. Lyell) produced 6616 tons in 1917, 6065 in 1923, and 6539 in 1925. The value of copper produced in the Commonwealth was nearly £5,000,000 in 1917; under £2,000,000 in 1919; and about £775,043 in 1925. In 1927 the total was 10,132 tons, valued at £607,038.

Gold. Gold discoveries occurred very soon after the first settlement was made, the first recorded find being by James McBrien, near the Fish River in New South Wales. In 1839 Count Strzelecki discovered gold, and later reported a further and larger find. In 1843-44 a shepherd named McGregor found gold in the Wellington district of New South Wales.

Serious attempts at gold-mining followed E. H.

Hargrave's report of his discoveries "at Lewes Ponds and Summer Hill Creeks" in the Bathurst and Wellington Districts. On the Government Geologist confirming Hargrave's report, a gold-rush occurred. In July the "Kerr's Hundredweight" (a nugget weighing 106 lb.) was discovered. For a considerable time after the fields were open some 4000 to 5000 ounces of gold were sent down to the city every fortnight. Then followed the discoveries at Araluen (1851), Lambing Flat (1860), Lucknow (1863), Hill End (1872), Yalwal (1873), and Hillgrove (1888).

A new goldfield was discovered at Wyalong in New South Wales in 1893, but the chief gold-mining by this decade had centred in Western Australia.

In Victoria gold was found by a man named Smyth near the Ovens River in 1844. In 1849 gold-quartz was unearthed at Smythesdale, but nothing was made of these finds and others until a much later date. Gold was discovered at Clunes in 1850, and at Anderson's Creek in 1851.

Thomas Hiscock found gold on the Buninyong Ranges, and this find led to the discovery of the Ballarat fields. Between August 1 and December 6, 1851, it was estimated that 211,734 oz. of gold were brought into Melbourne for shipment.

Extensive gold-finds were made in the Ovens district in 1852, resulting in a rush of 20,000 miners to the McIvor, and the creation of the town of Heathcote. In 1854 discontent and dissatisfaction, due to the heavy licensing fees and the oppressive rule by the gold-fields' police, culminated in the uprising known as the Eureka Stockade.

Samuel Stutchbury first discovered gold in Queensland in 1852. In 1856 a find was made at "Lord John's Swamp" on the Canning Downs, and at Emu Creek on the road to Gympie. The first gold-rush took place at

Canoona in 1857. Ridgeland's goldfields were opened in 1867 and soon afterwards finds were made at Rosewood.

In October 1867 James Nash discovered Gympie, and in 1869 gold was found on the Gilbert River. Then followed the spectacular rush to the Palmer, on the Cape York Peninsula. In 1882 the vast deposits of gold and copper were discovered at Mt. Morgan, almost within sight of Rockhampton.

The wealth of the Hamilton, well up in the Cape York Peninsula, was not suspected until 1899, and the short-lived but exciting and profitable Dee rush occurred in 1903.

The value of the great mound of gold and copper, afterwards called Mt. Morgan, was first discovered by two brothers Morgan, who, prospecting on the Cawarral goldfield, were storm-bound on John Gordon's selection at the foot of the hill. The Morgan Brothers prospected the hill and, finding large quantities of gold, pegged out all the ground they could take up outside Gordon's selection. They found the necessary capital, bringing in Thomas Skarratt Hall, William Knox D'Arcy, and William Patterson, and giving them a half-share in the discovery. Later the syndicate purchased Gordon's freehold for £640 and erected a battery at the foot of the mountain.

In 1886 the Syndicate, which so far had won 59,024 oz. of gold from the mine, was converted into a limited liability company, with a nominal capital of £1,000,000.

The mine was definitely closed down in September 1925, having in 39 years treated 9,196,605 tons of ore, containing 5,305,979 oz. of gold and 139,427 tons of copper; it had paid £9,379,166 in dividends. The mine still contains approximately 8,000,000 tons of low grade ores, valued at £16,000,000. The Company went into liquidation in 1927, having during the last six years of

its working paid £1,961,623 in wages out of a total expenditure of £3,002,000. In December 1928 the liquidators received a request from J. H. Kessal, acting on behalf of a syndicate, for an option to purchase the Queensland assets. The price is said to be £120,000, and it is proposed to form a company to realise certain of the valuable assets, keeping in view the ultimate object of the re-opening of the mine. It is proposed to treat immediately 660,000 tons of ores, previously blocked and assayed.

During January 1846 a gold-find took place about ten miles east of Adelaide, South Australia, and later this mine was worked. In 1852 W. Chapman found rich surface deposits above Donkey Gully. In 1871 gold was discovered at Jupiter Creek and in scattered patches along the main range from Echunga to Olary. The Teetulpa goldfields were uncovered in October 1886, and £300,000 worth of gold was taken from a square mile of country. Subsequently discoveries were made in the Tarcoola District, through which the East-West Transcontinental Railway was afterwards built.

In the Northern Territory gold was discovered by the men setting the poles for the overland telegraph line from Darwin to Adelaide. Because of the difficulty of reaching the probable fields, nothing was done in the way of gold-mining in the Territory until a much later date. Arltunga was the scene of a reported rich find in 1902, but the yield so far has been small. In 1908 Driffield was the centre of production. During the years 1909-18 very little advance was made in the industry. The chief event was the finding of a new goldfield in the far north of the Territory, at Tanami, some 450 miles south-east of Wyndham.

As far back as 1824 a man named Cobb, working in a road-gang near Georgetown, Tasmania, gave Captain D'Arcy a piece of gold he had picked up. This is the

first record of the metal in the island. In 1852 an alluvial deposit was found by Kieling Richardson near Fingal. Seven years later James Smith discovered gold at the Forth, and Peter Leete reported a find at the Calder. The quartz reefs at Fingal and Waterhouse were uncovered in 1869. The Waterhouse reefs were not worked until 1871 and soon petered out. In 1877 the Tasmania gold-mine was opened at Beaconsfield. Then followed the discoveries at Lisle (1878) and Branhholm (1883), and the famous Mt. Lyell deposits of gold and copper (1886).

In 1861, F. K. Panter, a Western Australian Inspector of Police, found specimens of gold-quartz east of Northam. No further finds were recorded until gold was found at Peterwangy. In 1873 a quartz reef was uncovered at Kendenup, but no fields were established until the discoveries of 1883. On May 20, 1886, the Kimberley goldfield was proclaimed. In 1887 gold was found at Southern Cross, and promising reefs were opened at Mallina in 1888. In the same year finds were made at Yilgarn and at Pilbara.

Alluvial gold was reported from the Murchison in 1891. A year later Bayley and Ford, who had mined gold on the Murchison, made their way to Southern Cross and camped at the native well near Coolgardie. Here they found gold, and after a month's work succeeded in tracking up the lead and locating the famous Coolgardie reef.

Kalgoorlie "Hannan's" was discovered in 1893 by Flannigan and Hannan, who were on their way to a new gold-rush about fifty miles north-east of Coolgardie. Bardoc, "the 45-mile," was located in August of the same year and "Siberia" in October. In 1894 Hall and Speakman pioneered the Mt. Jackson district, and in the same year rich alluvial was found at the Pinnacles and Kanowna.

Bulong, the Norseman field, and Menzies were also discovered in 1894.

The Yalgoo, Niagara, and Kunanalling goldfields were located in 1895, as were also the Nannine fields. The Mt. Magnet and Donnybrook districts were prospected in 1898. In 1899 the Jackson's Claim at Donnybrook and the Merton's Reward mine were located, and in 1900 gold was discovered at Yundamindera and at Mt. Higgins (North Coolgardie), Willcena (Peak Hill), Ninghan (Yalgoo), Boodalyerrie Creek (Pilbara), Canvells, Reedy's and Weld Range (Murchison), and Yallowdine and Dunladgin (Yilgarn).

In 1927 the Commonwealth produced 508,303 oz. of fine gold, valued at £2,159,076.

Diamonds. Diamonds were first discovered in Australia by E. H. Hargraves near Guyong, in New South Wales, late in June 1851. Further deposits were found in the Macquarie River, but no mining took place until 1867, when a considerable deposit was found in the Cudgegong Valley. In the same year diamonds were found near Bingara, and later about the Gwydir River, at Oakey Creek and at Mittagong. A few deposits have been found in Victoria and Western Australia, but the bulk of the Australian diamonds are derived from the Inverell-Tingha District. The total production up to 1926 was 202,168 carats, valued at £144,452.

Iron and Steel. Iron deposits were known from the earliest days of the Australian settlement. William Kent took specimens of iron ore to England in 1800, and Simeon Lord in 1812 proposed to open workings in Northern Tasmania. In 1852 works were established near Mittagong, and in 1875 attempts to smelt local and western ores were made at Lithgow.

In 1900 the Broken Hill Proprietary Company ac-

quired deposits of iron ore, showing 66.68 per cent of metallic iron, at Iron Knob and Iron Monarch, on the western side of Spencer Gulf in South Australia. Originally it had been intended to use the ore as flux in the Company's Port Pirie smelters, but in 1911 it was decided to exploit the deposits for the manufacture of iron and steel, and in 1915 works were opened at Newcastle. By the end of August in that year 36,214 tons of pig-iron had been produced. In the following eight months 86,000 tons of steel were made, and up to the end of 1921 the production of steel ingots averaged about 190,000 tons annually.

Industrial disturbances caused the closing down of the works, but in 1923 they were re-opened. The average annual output of steel for the two years 1924-25 was 332,570 tons.

In January 1908 C. H. Hoskins purchased the Lithgow (N.S.W.) plant (established in 1874). Ironstone was obtained from Carcoar (N.S.W.), and in the first year 3946 tons of steel ingots were made, as well as over 30,000 tons of pig-iron, from 51,206 tons of local ore. In 1908-13 the average annual yield was 3811 tons of steel and over 36,000 tons of pig-iron, from about 60,000 tons of ore. In 1909 a system of bounties came into force, and up to the end of 1913 the Lithgow works received £105,849. In 1914 the rate of bounty was reduced to two-thirds, but the production nearly doubled. In 1914-17 the average annual production was 22,472 tons of steel and 62,262 tons of pig-iron, from 113,027 tons of ore. Figures for 1921-25 show a yearly output of 81,772 tons of pig-iron from 151,628 tons of ore.

For the Commonwealth of Australia 118,951 tons of pig-iron were produced in 1927, valued at £654,230; 722,931 tons of iron ore and flux, valued at £831,295 and 5011 tons of iron oxide valued at £3116.

Silver and Lead. The first reports of silver in Australia were made by Count Strzelecki in 1839, but only small quantities of the ore were found up to the time of Charles Rasp's sensational discovery at Broken Hill, New South Wales, in 1882. At that time a few deposits were worked at Inverell (1870), Sunny Corner near Rydal (1875), and Boorook (1878).

In 1883 a boundary rider named Charles Rasp pegged out 40 acres of great ironstone outcrop as a tin-mine. A syndicate of seven, contributing £70 each, was formed and took up six more blocks. They sank a shaft, and at 100 feet down struck chloride of silver. Rich ore was later discovered on the property.

In August 1885 the Broken Hill Proprietary Company was floated. During later years other companies were promoted on the property of the syndicate by the parent company, which eventually retained only three of the original seven leases taken up. The town of Broken Hill grew up beside the mining property, and in 1889 its population numbered 17,000.

In 1885 the mine produced £108,281 and in 1888 £1,001,848. In 1891 production had increased to £3,529,043. The output at the end of 1925 was approximately £128,000,000 and dividends paid by the mining companies were close upon £30,000,000. The quantity of ore extracted totalled 35,000,000 tons, the maximum output for one year (1913) being 1,744,177 tons. In May 1925 the ore developed and the quantity available for extraction was estimated by the Government Geologist at over 13,000,000 tons, with unknown possibilities beyond.

The most important silver-lead field next to Broken Hill is at Yerranderie, in the hills behind Picton, New South Wales, where in 1925 1211 tons of ore yielded 111,532 oz. of silver, 217 oz. of gold, and 317 tons of lead. One stope of the Silver Peaks mine on this field

showed over ten feet of solid galena, yielding in 1923 120 oz. of silver and 33 per cent of lead per ton. A mine at Kangiara, near Yass, obtained from 146 tons of ore 2575 oz. of silver and 37 tons of lead, besides 11 oz. of gold. Condobolin in the west; Tumbarumba in the south; and Tenterfield and Emmaville in the north are also silver-producing districts. Some very rich silver ore only has been mined at Rockvale, in the neighbourhood of Armidale.

All native gold contains a percentage of silver, and in Victoria that is the only form in which silver is obtained. In Queensland the chief yields in 1925 were:—Chillagoe, silver £10,432; lead £60,785; Herberton, silver £9370; lead £15,162; Mount Morgan, silver £2577 (recovered from gold); Etheridge, silver £2435; lead £11,896.

In 1923 a new silver-lead field was discovered at Mt. Isa in the Cloncurry district. The lodes are distributed over an area five miles long by one mile wide along the west bank of the West Leichhardt River. Complex silver-lead ore occurs also at Silver Spur. In the same year ores were found between Ooloo Dam and Mount Distance, in South Australia, but no mining followed. In Western Australia 81,226 oz. of silver were obtained as a by-product in 1925, and 4854 tons of lead and silver-lead ore, valued at £83,095 were exported. The Northampton mineral field yielded 37,865 tons of lead. Tasmania, in 1924, produced 494,782 oz. of silver and 4559 tons of lead. Of silver the Magnet mines returned 151,084 oz., the North Mt. Farrell, 194,702 oz., Zeehan, 41,464 oz., Mount Lyell, 147,376 oz., and Round Hill 24,169 oz. The principal lead producers were North Mt. Farrell (1933 tons), Zeehan (500), and Magnet (900).

In the Northern Territory silver-lead ores are found near Pine Creek, Lawn Hill, and at Mt. Shoebridge, but

owing to transportation costs the locations have not been worked.

In the Commonwealth during the year 1927, 882,786 oz. of silver were produced, valued at £103,392, and 291,709 tons of silver-lead ore, etc., valued at £3,512,549. In the same year 6502 tons of lead were produced, valued at £157,815.

Tin. Tin, in Australia, was first discovered by W. B. Clarke, who reported it from New England and Darling Downs. In 1871 the Mount Bischoff mine, in Tasmania, was discovered, and in 1872 deposits were uncovered at Inverell in New South Wales and at Warwick in Queensland. The Herberton (Queensland) tin-field was opened in 1879 and the Western Australian fields in 1888.

Australia reached its highest annual production of tin (value £1,509,787) in 1907, in which year Tasmania and Queensland yielded 9500 tons. Recently the yield has considerably decreased, mainly because of low prices and the high production costs. The average production values for 1919-24 are:—New South Wales, £264,806; Tasmania, £253,298; Queensland, £141,317. Other States produced small quantities. The Commonwealth production of tin averaged up to £717,110. The total quantity of tin produced in the Commonwealth during 1927 was 3507 tons, valued at £842, 430.

Opals. Boulder opal was discovered in Queensland about 1875, and about 1877 similar stones were found in New South Wales on the Abercrombie River. Sandstone opal was discovered in Western Queensland about 1886, occurring in a belt of country about 250 miles wide extending about 550 miles north-west from Hungerford, on the New South Wales border, to Kynuna, at the head of the Diamantina River.

In 1903 prospectors along the Upper Darling River

struck at Lightning Ridge, near Walgett, a type of opal distinguished by the black body-ground, in which colours gleam. This was at first difficult to market, but by 1910 Lightning Ridge was yielding two-thirds of the Australian output, and in 1914 eighty per cent of it.

In 1915 a new opal-field was discovered in the Stuart Ranges, west of Lake Eyre in South Australia. This field produces a light opal, identical with the White Cliffs stone, but occasional specimens show an inky colouring matter. No production was recorded in 1922-23, and in New South Wales only £3040 worth was won—all but £40 worth from Lightning Ridge; in Queensland £500 worth. These figures cannot be absolutely relied upon since parcels of stone are often disposed of privately and not recorded. Small quantities are found in the Beechworth district of Victoria. The total of opal produced in the Commonwealth during 1927 was valued at £22,910.

Asbestos. Asbestos has been found near Barraba and Gundagai, in New South Wales. The average annual yield for 1920-22 was 723 tons. During 1923 the mines were abandoned. In Queensland a belt of country between Cawarral and Canoona showed seams, but the fibre lacked tensile strength. In South Australia deposits of the "mountain leather" and "mountain cork" varieties have been found at Ollawirra, and finds of the blue variety have been made at Eudunda and at Hawker. In Western Australia the fibrous chrysolite variety has been found south-east of Cossack, between the Yule and the Nullagine. The average annual yield in 1923-25 was 80 tons. In 1918, at Anderson's Creek, in Tasmania, asbestos was mined and yielded 2854 tons, valued at over £5000; in 1919 a small quantity was raised, but there has been no production since.

SOME WELL KNOWN CITIZENS OF THE PERIOD



SOME WELL KNOWN CITIZENS OF THE PERIOD

SIR EDMUND BARTON (1849-1920)

Born at Glebe, Sydney, on 18th January 1849. Educated at Sydney Grammar School and University of Sydney (B.A. 1868; M.A. 1870). Called to N.S.W. Bar in 1871 and became Q.C. in 1889. Contested University seat in Parliament unsuccessfully in 1877 and successfully in 1879—but in that year University representation was abolished. Became successively member for Wellington (1880-1), East Sydney (1882-7 and 1891-4), Hastings and Macleay (1898-9). Interposed two terms (1887-91 and 1897-8) as member of Legislative Council. Speaker Legislative Assembly 1883-7. Protectionist, attached to the George Dibbs party and under him Attorney-General in 1889 Ministry and also (for a time) in the 1891-4 Ministry. Resigned to devote himself entirely to Federation. Representative for N.S.W. in 1891 convention and one of the four members chosen to draft the Constitution Bill. In 1891 stood for East Sydney and joined the Dibbs Ministry as leader of the Federation party—at the direct request of Sir Henry Parkes, who had retired from politics. Carried pro-Federal resolution in Parliament but found the dual position impossible and resigned from Ministry in December 1893. Devoted his time to speeches in favour of Federation. Headed poll for Federal Convention elections (N.S.W.) in 1897 and was made leader of the Convention and Chairman of a Constitutional Committee. Chairman of sub-Committee that drafted the new Bill. Appointed

leader of the Delegation to London to see the Commonwealth Bill through the English Parliament. Was first Prime Minister of the Commonwealth. Resigned in 1903 and accepted position of Chief-Justice on the High Court of Australia. Died January 7th, 1920. (P.C. 1901; G.C.M.G. 1902).

O. C. BEALE.

In 1868, being then 18 years old, Mr. O. C. Beale was cashier in the firm of Brooks, Robinson and Company of Melbourne. Later he visited New Zealand to open up business there and became a partner in 1875.

In 1879 Mr. Beale commenced business under the name of Beale and Company, as an importer of sewing-machines, to which Pianos were soon added. The operations developed rapidly.

In view of the extensive turnover, the manufacturing of both pianos and sewing-machines was decided upon and local production began in 1893.

The manufacture of sewing-machines was relinquished in order to concentrate upon pianos, the factories being now the largest and best equipped Piano Plant in the British Empire.

Mr. Beale holds the Freedom of the City of London, being a Liveryman of the Worshipful Company of Musicians, a Fellow of the Royal Society of Literature London.

When the Chambers of Manufactures of Australia formed their Federal Association in 1904, he was elected their first President, and has ever since remained on the Council.

For some years he was a Trustee of the Savings Bank of New South Wales, and is now a Trustee of the Australian Museum.

SAMUEL BENNETT (1815-1878)

Born at Camborne, England, 1815. Arrived Australia in 1841 under engagement to the proprietors of the "Sydney Herald" (now "Sydney Morning Herald"), then Messrs. Stephens & Stokes, when Messrs Kemp & Fairfax took over the newspaper became head of the printing department, which position he occupied for over 17 years. 1859 bought the "Empire," then a daily newspaper with a weekly edition, until 1875. 1867 commenced publication of the "Evening News." Three years later he added a weekly paper, "The Town and Country Journal." In 1875 he amalgamated the "News" and the "Empire."

He contributed much to the columns of his papers and in 1865 commenced "A History of Australian Discovery and Development" which appeared as a serial in the "Evening News." Later in the year he found that business affairs forbade further historical research and published what had been written (to 1831) in a book.

Died at Little Coogee, near Sydney, 1878.

SIR EDWARD NICHOLAS COVENTRY BRADDON (1829-1904)

Son of Henry Braddon, of Cornwall, England, and elder brother of Miss Braddon, the novelist. Born 1829. In 1847 he went to Calcutta to work for a cousin's firm. Later joined the Government Railway Service as assistant in the Santhal district, where he helped to suppress an outbreak. Was appointed Assistant Commissioner in 1857. During the Mutiny he raised a Santhal battalion and served under Sir George Yule, with much credit. For the next twenty years he occupied various posts in the Indian Revenue Service.

Retiring in 1878 he settled in Tasmania and the following year entered the Assembly as member for West

Devon. Became Leader of the Opposition in 1886. After refusing the Premiership he joined the Fysh Ministry in 1887 as Minister of Lands and Works. 1888 he was Tasmanian Representative on the Federal Council and the same year became Agent General. Recalled to Tasmania in 1893 he was re-elected for his old constituency. In 1894 became Premier, retaining office until late in 1899 taking a large share in Federation. He represented Tasmania at the Convention of 1897-8 and was mainly responsible for the famous "Braddon Clause." Was elected to the Federal House of Representatives in 1901 and died in 1904. (K.C.M.G., 1891; P.C., 1897).

SIR JOHN COX BRAY (1842-1894)

Born in Adelaide, South Australia, 1842. Educated at St. Peter's College, England, and trained for the law. Admitted to the South Australian Bar in 1870. Entered Parliament 1871 as member for East Adelaide. Sat for the constituency, continuously until his resignation in 1892.

In 1875 he became Minister for Justice in the Blyth Ministry; Attorney-General in the Colton Ministry, 1877; Leader of the Opposition 1877-1881; Premier, 1881-1884. In 1885 he joined the Downer Ministry as Chief Secretary and later in 1887 took the portfolio of Treasurer. 1888 was elected Speaker, but resigned in 1890 to take office as Chief Secretary in the Playford Ministry. 1892 he was appointed Agent General to London. He resigned, through illness, in 1894, and died at sea in that year.

He represented South Australia in the Intercolonial Conference of 1883 and presided over the Australian Natives' Association Conference of 1890, and was one of his State's Representatives at the Convention of 1891. (K.C.M.G., 1890).

SIR JAMES BURNS (1846-1923)

Born at Polmont, Scotland, 1846. Educated at Edinburgh High School. Migrated with an elder brother to Queensland 1862 and after some years of pastoral work was about to join his brother in the management of a business near Brisbane when gold was discovered at Gympie. He was the first man from Brisbane to reach the field and besides acquiring several mines controlled three stores at the mining centres. 1870 visited Scotland and on returning found that the discovery of gold at Charters Towers was playing an important part in the development of Townsville. He settled there and established a business as Merchant and Shipping Agent. 1877 he took into partnership Robert Philp whom he left in charge when he decided to settle in Sydney. In 1883 he founded the firm of Burns, Philp & Co., amalgamating his own business at Sydney, Thursday Island and Normanton with the businesses carried on in Philp's name at Charters Towers, Townsville and Cairns.

1888 Burns enlisted in the New South Wales Lancer Regiment. In 1891 he was made Captain of the Parramatta Troop; and in 1897 became Colonel of the Regiment, rising in 1904 to Brigadier-Colonel commanding the first brigade of the Australian Light Horse. Retired in 1907 in which year he was nominated to the Legislative Council. For nineteen years he was President of the New South Wales Highland Society and for twelve years a Trustee of the Australian Museum. In his later years his interests were in the Burnside Home for Orphans, built on his own land at Gowan Brae, near Parramatta, and largely endowed by him. Died at Gowan Brae, 1923. (K.C.M.G., 1917).

*THE HON. SIR JOSEPH HECTOR CAR-
RUTHERS*

Born at Kiama, N.S.W., 21st December 1857. Educated at Fort Street Public School, Goulburn High School and Sydney University, graduated B.A. 1873, M.A. 1875.

Articled to A. H. McCulloch in 1875 and after admission as a Solicitor practised for fifty-one years in Sydney. Elected to N.S.W. Legislative Assembly in 1886 and re-elected for 22 years for same Electorate until 1908 when he resigned and was appointed to the Legislative Council of N.S.W. in 1908, of which Chamber he is still a member. Thus for 43 years he has been continuously a member of the State Legislature.

In 1896 he was elected one of the ten delegates for N.S.W. to the Australasian Federal Convention and as a member thereof assisted in framing the present Constitution of the Commonwealth of Australia. Member of five State Ministries, viz., in 1888, Minister of Education in Government of Sir Henry Parkes and until 1891. From 1895 to 1901 member of Reid Government as Minister for Lands and Colonial Treasurer. From 1904 to 1908 Premier and Treasurer in his own Ministry. In 1919 and again in 1921-24 Vice-President Executive Council in Government of Sir George Fuller. Created K.C.M.G. in 1908. Has held positions as President N.S.W. Chamber of Agriculture (ten years), Trustee of National Park, Public Art Gallery, Council of Royal Agricultural Society, Commonwealth Commissioner Cook Celebrations at Hawaii 1928. (K.C.M.G. 1908; LL.D., M.L.C. 1908).

JOHN HENRY CHALLIS (1809-1880)

Born in England in 1809 and migrated to Sydney, New South Wales, in 1829. Employed as a clerk by Marsden & Flower, General Merchants. The firm was

re-organised in 1842 and Challis was taken into partnership, on his merits and it is believed without capital. The new firm, Flower, Salting & Co., became extremely wealthy when the gold discoveries expanded Australian commerce and in 1855 was dissolved, the partners retiring on their acquired wealth, which in Challis' case amounted to more than £100,000. This included, beside other property, a large block of land along the shore of Woolloomooloo Bay, extending eastwards to Macleay Street.

After retiring Challis lived almost wholly in England, except for a short visit to New South Wales in 1859. He was interested in the University of Sydney and he left it the whole of his residuary estate, subject to his widow's life interest, and a five-year period of accumulation after her death. He died in France in 1880 and his widow died in 1884. In 1890 the University benefited by about £200,000 which was increased in 1905, when certain annuities fell due, by nearly £80,000.

REVEREND WILLIAM BRANWHITE CLARKE
(1798-1878)

Born at East Bergholt, England, 1798. Educated at Dedham Grammar School and Jesus College, Cambridge (B.A. 1821; M.A. 1824). At the University he acquired enthusiasm for and considerable knowledge of geology and also wrote verse, being defeated by Macaulay for the Newdigate Prize. 1821 he took Holy Orders (Priest 1824) and spent the next eighteen years travelling through England and Europe engaged in scientific, mainly geological, investigation. In 1833 he was given the living of Longfleet, in Dorset, and became Chaplain to the Bishop of Salisbury. Arrived in Australia 1839. On arrival in Sydney he was appointed to the parish of Castle Hill and Dural, together with the nominal headmastership of The King's School, at Parramatta. In 1840 he resigned the headmastership and transferred to paroch-

ial work at Campbelltown. In 1846 he became incumbent of St Thomas's Church, North Sydney, and remained there until 1870.

Clarke's name is chiefly associated with the discovery of gold on the Australian continent although he was not actually the first discoverer. In 1851 he was commissioned by the Government of New South Wales to make survey of the southern districts of the colony "with a special view to the indications of gold" and spent nine months on the Monaro, around Kosciusko and on the Upper Murray, without much result, so far as gold discoveries were concerned. For his work then and previously, he was awarded £6000 by the Colonial Governments. In 1877 he received the Murchison Medal of the London Geological Society for his work on the New South Wales coal-fields; and in 1849 announced his discovery of deposits of tin.

Was appointed Secretary of the Australian Museum in 1841 and retired in 1845. Was a Member of the Council of the Australian Philosophical Society when it was resuscitated in 1850; its Vice-President when it became the Philosophical Society of New South Wales in 1856; and one of its Vice-Presidents when in 1866 it was transformed to the Royal Society of New South Wales. In 1876 he was made a Fellow of the Royal Society for his work on gold discoveries—at a time when that honour was very rarely conferred for work in Australia. After 1870, when he retired from clerical work, he devoted himself entirely to science and died in 1878. After his death the Government bought his collection of fossils for £7000.

SIR DANIEL COOPER (1821-1902)

Born at Bolton-le-Moors, Lancashire, England, 1821. Educated at University College, London. Received his early mercantile training with a firm trading

at Havre, France, and in 1843 came to Sydney, N.S.W., to join his father's firm of Holt & Cooper, which in 1851 became Cooper & Co.

1849 he was elected to the N.S.W. Legislative Council by the Counties of St. Vincent and Auckland and retired at the dissolution of 1851. Visited England several times during the next few years and gained prominence as the originator of the Australian Fund to relieve the distress caused by the Crimean War. 1856 was elected to the new Legislative Assembly by Sydney Hamlets; held the seat until 1859 and then transferred to Paddington. Was Speaker to three Parliaments and resigned the position 1860 on account of failing health and retired from politics. Died in London 1902.

Cooper's wealth, acquired from commerce and investments in land was largely spent on philanthropic works in England and Australia. He was Senator of the University of Sydney from 1857 to 1861 and created a fund from which one graduate and three undergraduate scholarships are now provided. His chief benefactions were connected with the distress caused in Lancashire by the American Civil War and for his gifts and services in that period he received a baronetcy. On several occasions he acted as Agent-General for New South Wales. (Kt. Bach. 1857; Bart. 1863; K.C.M.G. 1880; G.C.M.G. 1888).

SIR WILLIAM PORTUS CULLEN

Born near Jamberoo, N.S.W., 1855. Educated at the University of Sydney (B.A. 1880; M.A. 1882; LL.B. 1885; LL.D. 1887). Called to the bar in 1883 and soon took high rank on the Equity side. Became member for Camden in the Legislative Assembly and in 1895 was appointed to the Legislative Council. He was interested in the University and was elected a Fellow in 1896; made Vice-Chancellor in 1908-1910 and Chancellor in 1914.

In 1896 he introduced into the Council a Bill for University Reform, including the reforms that were eventually carried in 1912—a limited term of office for Senators and election of them by postal votes.

Was made Chief Justice of New South Wales in 1910 with a dormant commission as Administrator of the Government during any absence of the Governor. This was superseded in the same year by a definite appointment by the King to the post of Lieutenant-Governor. He resigned the Chief Justiceship on January 28th, 1925. He continues to take an active interest in many movements affecting the welfare of Australia. (Kt. Bach 1911; K.C.M.G. 1912).

WILLIAM BEDE DALLEY (1831-1888)

Born Sydney, 1831. Educated Sydney College and St Mary's School. Called to N.S.W. bar 1856 (Q.C. 1877). Succeeded Sir Henry Parkes for City of Sydney 1856 in first parliament under responsible government. Represented Cumberland boroughs in 1858-9 parliament and in the following parliament represented Windsor. Resigned Feb. 1860. From Nov. 1858 to Feb. 1859 was Solicitor-General in Cowper ministry. Was one of 21 new members John Robertson appointed to Legislative Council in May 1861 and was Commissioner for Emigration, with Parkes as fellow-commissioner. Represented Carcoar 1862-1864. Member of Legislative Council 1870-1873. In 1875 re-appointed to Council and was appointed Attorney General 1875-1877. Resigned from Council 1880, but was again in Council as Stuart's Attorney General in 1883. In 1884 Stuart became ill and Dalley was acting Premier. In that office he offered England a contingent of New South Welshmen for the Sudan war following the death of General Gordon. Refused knighthood and chief-justiceship and under pressure ac-

cepted Privy Councillorship in 1887—the first Australian to receive that honour. Died Sydney 28th October 1888.

HENRY CAREY DANGAR (1830-1917)

Born at Port Stephens in 1830 and educated at Sydney College and the University of Cambridge (M.A. 1857). Returned to New South Wales to take up pastoral life. Entered politics in 1874 as member for West Sydney and was a member of Parliament for practically the rest of his life (West Sydney 1874-7; East Sydney 1880-2; nominated to the Legislative Council 1883). He died in Sydney in 1917.

FREDERICK HOLKHAM DANGAR (1831-1921)

Third son of Henry Dangar. He preferred shipping to sheep-stations and founded the shipping firm of Dangar, Gedye & Co., which he managed until 1882. In that year he disposed of his many Australian interests and retired to London where he died on 26th March, 1921. He was especially interested in the training of officers for the British Mercantile Marine and had a share in the well-known training ships *Medway* and *Port Jackson*.

SIR FREDERICK MATTHEW DARLEY (1830-1910)

Born on 18th September, 1830, in Dublin. Educated at Royal School, Dungannon, and Trinity College, Dublin. He was called to Irish Bar 1853. He emigrated to Australia in 1862 and was admitted to the N.S.W. Bar in the following June (Q.C. 1878). In 1868 he was nominated for the Legislative Council and was a member for 18 years. He was Vice-President of the Executive Council, 1881, and held the office to 1883. In 1884 he and his

brother-in-law, Sir Peter Scratchley, were appointed a commission to enquire into the defences of the Colony. He declined the Chief Justiceship in 1886, but later in the same year accepted. In 1891 he was made Lieutenant-Governor and was five times Acting Governor. In 1902, while on a visit to England he was appointed to the South African War Commission. He resigned his offices in 1909 and went to England. Died there January 4th, 1910. (Kt. Bach. 1887; K.C.M.G. 1897; G.C.M.G. 1901; P.C. 1905).

SIR GEORGE RICHARD DIBBS (1834-1904)

Born in Upper Fort Street, Sydney, 1834. Educated at St. Phillip's Church of England School and Australian College. Commenced business with a brother in the firm of J. C. Dibbs & Co. 1865, settled at Valparaiso as a corn factor and successfully ran the Spanish blockade with cargoes of wheat and flour. Returned to Sydney, he resumed his previous business extending it to include shipowning and importing.

1874 he entered public life. Was elected to the Assembly for West Sydney. Defeated for that seat 1877. 1882 was returned for St. Leonards and in the next year was Treasurer in the Stuart Ministry. In 1885 he formed his first ministry. He was Colonial Secretary (1886-1887). In 1889 he formed his second ministry and was defeated. In 1891 he formed his third ministry and, during a subsequent visit to England, he was knighted personally by Queen Victoria. At the election of 1894, which was fought on the fiscal question, he was defeated and resigned. In the following year he lost his seat in Parliament and retired from politics. In 1896 was appointed Managing Trustee of the Government Savings Bank of New South Wales and held that position until his death in 1904.

SIR THOMAS ALLWRIGHT DIBBS (1832-1923)

Born Sydney, 1832, and educated at the Australian College. Entered the employ of the Commercial Banking Company, Sydney, 1847, and remained with that Bank for the remainder of his life. In 1887 he was made General Manager of the Bank and for twenty-eight years in that capacity greatly influenced the financial position of New South Wales, being to a great extent the Financial Adviser for twenty-five years of every New South Wales ministry. In July 1915 he retired, remaining a Director of the Bank.

He took a keen interest in all movements that could help soldiers and gave his house and estate, known as Greythwaite, on the heights of North Sydney, as a home for disabled men. For many years he gave the Church and Synod the benefit of his long experience in its financial affairs. He died in 1923. (Kt. Bach. 1917).

SIR JOHN WILLIAM DOWNER (1844-1915)

Born Adelaide, 1844. Educated at St. Peter's College, trained for the law. Admitted to the local bar in 1867 and made a Q.C. in 1878. In that year he was elected to the Legislative Assembly from Barossa, which constituency he represented until 1901. From 1881 to 1884 he was Attorney-General in the Bray Ministry and from 1885 to 1887 and from 1892 to 1893 he was Premier. He represented his Colony at the Sydney Convention of 1883; the Colonial Conference in London of 1887; and the Federal Conventions of 1891 and 1897-8. Was a member of the Federal Council of 1889 and elected to the first Senate of the Commonwealth (1901-3), at the end of his term returned to State politics. In 1905 entered the State Legislative Council. Of that body he was a member until his death, at Adelaide, 1915. (K.C.M.G. 1887).

SIR JAMES READING FAIRFAX (1834-1919)

Born in 1834 at Leamington, Warwickshire, the second son of John Fairfax. Educated at private schools at Parramatta and Sydney. Engaged in newspaper work early in life and continued so till his death. Became head of John Fairfax and Sons upon the death of his father in 1877. Knighted in 1898. Was at various times on the Directorates of the Banks of New South Wales, Commercial Banking Company of Sydney, A.M.P. Society, the Perpetual Trustee Company (of which he was one of the founders), and of Burns, Philp Ltd. President of the National Art Gallery of New South Wales. President of the Sydney Y.M.C.A. One of the founders of Sydney Boys' Brigade and of the Royal Prince Alfred Hospital. Trustee of the Royal Naval House and the National Shipwreck Relief and Humane Society. President of the Royal Sydney Golf Club and Commodore of the Royal Sydney Yacht Squadron. Died at Ginahgulla, Sydney, March 28th, 1919.

JOHN FAIRFAX (1804-1877)

Born at Warwick, England, in 1804. Arrived Australia in 1838 and came to Sydney. In 1839 he was appointed Librarian to the Sydney Subscription Library (afterwards the Public Library). He became attached to the "Sydney Herald." He proved so valuable that the management drifted into his hands. In 1841 John Fairfax and Charles Kemp took over the "Herald," just established as a daily. In 1842 the name of the paper was changed to the "Sydney Morning Herald." In 1853 John Fairfax became sole proprietor. He took a prominent part in establishing the Australian Mutual Provident Society. In 1871 he was appointed to the Council of Education. In 1874 he was appointed to the Legislative Council and died in 1877.

ALFRED FELTON (1831-1904)

Born at Maldon, England, 1831. Came to Victoria, attracted by the news of the gold discoveries and arrived Melbourne 1853. Opened business as a Wholesale Druggist and General Merchant. In 1866 he joined F. S. Grimwade in founding the firm of Felton, Grimwade & Co., and in later years acquired large pastoral property. He employed his considerable wealth mainly on charitable and artistic objects and when he died in 1904 left an estate of about £400,000 to be applied to the above objects in equal proportions.

BARON (JOHN) FORREST (1847-1918)

Born at Bunbury, Western Australia, 1847. Educated at The Bishop's School, Perth. Entered the Survey Department at the age of eighteen and in 1869 was given charge of an expedition into the interior of Western Australia, to search for the missing explorer, Leichhardt. In 1870 he led an expedition along the Bight to Adelaide and in 1874 traversed the Colony from Champion Bay to the overland telegraph line between Adelaide and Port Darwin, about 2700 miles. Was given the gold medal of the Royal Geographical Society of London as well as the title of Chevalier of the Order of the Crown of Italy and the Honorary Fellowship of the St. Petersburg, Vienna, and Italian Geographical Societies. Received the thanks of the Colonial Government and a grant of 5000 acres from the Imperial Authorities.

In 1876 was appointed Deputy-Surveyor-General. In 1878-79 he was Acting Commissioner of Crown Lands and Acting Surveyor General. In 1880-81, Acting Comptroller of Government Expenditure. From 1883 to 1890 he was Commissioner of Crown Lands and Surveyor-General with a seat in the Executive and Legislative Councils. With Responsible Government he became first

Premier and Colonial Treasurer and held the office for nearly eleven years, resigning to undertake wider duties in the first Federal Parliament. During his term of office, were undertaken the important works of Fremantle Harbour, the Goldfields Water Scheme, the development of the railway system to the goldfields and a wide and liberal land legislation.

Was a member of both Federal Conventions and also represented his Colony in the Federal Councils of 1893-5-7-9, being President in 1897. In 1901 was elected for Swan to the Federal House of Representatives and retained that seat until his death. In the Federal Parliaments he held the offices of, Postmaster General (1901); Minister for Defence (1901-3); Minister for Home Affairs (1903-4); Treasurer (1905-7); Acting Prime Minister (1907); Treasurer (1909-10 and 1913-14); Treasurer (1917), but retired in 1918. In February 1918 a peerage was conferred on him. He died at sea in 1918 and his body was brought to Western Australia.

SIR JOHN RUSSELL FRENCH (1847-1921)

Born in India in 1847 and brought to New South Wales in 1858. He entered the service of the Bank of New South Wales in 1863 and passed through all grades of the service, becoming Inspector in 1872, Chief Inspector in 1891 and General Manager in 1894. Joined with Sir T. A. Dibbs in a campaign to obtain uniform banking legislation throughout Australia. Holding aloof from politics he became the adviser of State and Federal Treasurers and made his Bank one of the most influential in Australia. He was associated with many welfare movements and was one of the original Trustees of the Walter and Eliza Hall Trust, he also acted as Advisor in financial matters associated with the Church. Died in Sydney 1921. (K.B.E. 1918).

SIR PHILIP OAKLEY FYSH (1835-1919)

Born at Highbury, North London, 1835. Arrived Tasmania 1859, as Manager of a Branch of a London mercantile firm. In 1865 he strongly advocated the railway between Launceston and Hobart. He sat in the Council as Member for Hobart (1866-69) and Buckingham (1870-73, 1884-94); and in the Assembly as member for East Hobart (1873-78 and North Hobart (1894-98). Was treasurer in the Kennerley Ministry (1873-75), Premier, without office (1877-78) Premier and Chief Secretary (1887-92), Treasurer (1894-98). From 1875 to 1876 and in 1878 he was Minister without office in the Cabinets of the time. He represented Tasmania at the Federal Convention of 1891 and 1897-98 and became a member of the Finance Committee. Was Agent-General 1898-1901. Returning to Tasmania was elected to the Federal House of Representatives and in 1903 and 1906 for Denison. From 1901 to 1903 was Honorary Minister then Postmaster General. He retired from politics in 1910 and died at Hobart in 1919. (K.C.M.G. 1896).

RICHARD GOLDSBROUGH (1821-1886)

Born at Shipley, in Yorkshire, England, in 1821 and apprenticed to a wool-stapling firm in Bradford. Started on a small scale as a wool-merchant in 1842. Arrived Adelaide 1847 and then moved to Melbourne. Commenced business in the latter city in 1848. In 1853 he established a Stock and Station business with Messrs. Row & Kirk and bought stations in the Riverina. Deciding in 1857 to confine his energies to wool-broking he developed that business, eventually amalgamating, in 1881, with another firm and founding the house of R. Goldsbrough & Co., with a capital of three millions. He died in 1886. After his death his Company absorbed the

famous firm of Mort & Co. and eventually other similar businesses under the name of Goldsbrough Mort & Co., which is one of the greatest wool businesses in Australia.

JOHN GOULD (1804-1881)

Born at Lyme Regis, in Dorset, England, 1804. From early years he was interested in wild bird life and taxidermy and at fourteen was working under his father, who was foreman gardener at Windsor Castle.

In 1827 he was appointed taxidermist to the Zoological Society of London and three years later receiving from the Himalayas a collection of birdskins produced his first volume of bird illustrations, "The Century of Himalayan Birds." In 1837 he published a "Synopsis of the Birds of Australia" and in 1838 himself went to Australia spending two years in collecting and the instruction of subordinate collectors. On his return to England in 1840 he commenced the publication of his great work on Australian birds in seven volumes containing 601 plates. In 1844 he brought out a "Study of the Macropodidae" (Kangaroos) and between 1845 and 1863 produced three volumes on "The Mammals of Australia." In 1865 he issued a "Handbook to the Birds of Australia" and between 1875 and 1880 "The Birds of New Guinea and the Adjacent Papuan Islands." In 1843 he was elected a Fellow of the Royal Society and died in London 1881.

SIR SAMUEL WALKER GRIFFITH (1845-1920)

Born at Myrthyr Tydvil, in Wales, 1845, and brought by his parents to New South Wales in 1854. He was educated at the University of Sydney (B.A. 1863, M.A. 1870) and won the Mort Travelling Fellowship. Returning to Brisbane he was articled to Arthur Macalister

and in 1867 was called to the bar of Queensland (Q.C. 1876). In 1871 he entered the Queensland Legislative Assembly as Member for East Moreton and in 1874 became Attorney-General. During the next five years he was continually in office as Attorney-General and Secretary for Public Instruction (1876-79) and during 1878 also as Secretary for Public Works; Premier 1883-88. From 1890-93 he was nominally head of a coalition Government and in the latter year retired from politics to become Chief Justice of the Colony.

He was one of the Queensland Representatives at the Colonial Conference of 1887 and at the Intercolonial Conference of 1883 had carried a proposal for the setting up of a Federal Australasian Council, which in 1885 was embodied in an Imperial Act. He represented Queensland at the preliminary Federal Conference of 1890 and at the Convention of 1891 of which he was Vice-President. He was Chairman of the Sub-Committee which drafted the Convention's Bill and the Bill was, in the main his personal work. In 1903, when the High Court of Australia was established Griffith was offered the Chief Justiceship. In 1904 he was made a member of the Senate of the University of Sydney. In 1919 he resigned the Chief Justiceship of Australia and died in 1920 at Brisbane. (K.C.M.G. 1886; G.C.M.G. 1895; P.C. 1901).

LAWRENCE HARGRAVE (1850-1915)

Born in England in 1850 and when his father migrated to Australia was left in England to continue his education. Arrived Australia in 1866, was apprenticed to an engineering firm and afterwards was assistant at the Sydney Observatory, where he first became interested in human flight. In 1884-92 he experimented with monoplane models, first with flapping wings and later with screws. With these models, flights of 300 to 400 feet

were repeatedly made in a horizontal course, but they could not rise from the ground or steer to right or left. Prominent among his discoveries at this time was the rotary aeroplane engine made in 1889. It weighed only $7\frac{1}{2}$ ounces and made 456 revolutions per minute. In 1892 he began to experiment with curved surfaces. The increased lift obtained with these opened up a new and larger field for research and resulted in the production of cellular kites. In 1894, by means of four kites weighing 34 lb. 13 oz. he succeeded in raising a weight of 208 lb. a distance of 16ft. from the ground in a 21-miles-per-hour wind. He died at Sydney in 1915.

JAMES HARRISON (1815-1893)

Born at Renton, in Dumbartonshire, Scotland, in 1815, and apprenticed to a printer at Glasgow. In 1837 was sent out to Sydney in charge of some printing material to be used in the production of the "Literary News" to which magazine he contributed while working on the "Monitor" and the "Sydney Herald." In 1839 he moved to Melbourne and joined Fawcner on the "Port Phillip Patriot" and then went to Geelong to edit the "Advertiser." In 1842 Harrison bought Fawcner out and in 1851 began to publish the "Australian" a literary quarterly. He represented Geelong in the Victorian Legislature from 1856 to 1861.

About 1852 he began to study the formation of ice by the evaporation of ether and in 1856 and 1857 patented his process. At Rodey Point on the Barwon he built the first ice factory in Australia, but finding that ice-making machinery, on a commercial scale, was unobtainable in Melbourne or Sydney he went to London to exploit his invention. He returned to Victoria in 1859 with a large machine and installed it in a factory in Franklin Street, Melbourne, producing with it up to 10 tons of

ice a day. In 1861 Harrison was made bankrupt and the purchasers of the "Advertiser" offered him the post of editor. In 1865 he abandoned the "Advertiser" and started the "Geelong Register." Selling this newspaper he returned to Melbourne where he became sub-editor of the "Age." In 1873 he produced a new process for freezing carcasses for export. For this he was awarded a gold medal at the Melbourne Exhibition of 1873 and on proving that the cost of freezing and freightage would not exceed 7/- per ton was given £2500 to take 25 tons of frozen beef to London. The process did not succeed for beef, while successful for mutton. In 1892 he returned to Geelong and settled down at Point Henry and resumed intermittently his connection with the "Age." He died in 1893.

SIR JOHN HAY (1816-1892)

Born at Little Ythsie, in Aberdeenshire, and educated at the University at Aberdeen (M.A. 1834). Studied for the Scottish bar in Edinburgh, but in 1838 migrated to New South Wales and took up land for pastoral purposes on the Upper Murray. In 1856 he was elected, unopposed, for the Murrumbidgee constituency Secretary for Lands and Works (1856-57). Represented successively, Murray (1856-64) and Central Cumberland (1864-67). Chosen speaker 1862 but resigned for reasons of health in 1865. In 1867 he was nominated to the Council and in 1873 became its President, a position he held until his death in 1892. (K.C.M.G. 1878.)

SIR JOSEPH GEORGE LONG INNES (1834-1896)

Eldest son of the late Captain Joseph Long Innes. Educated at Mr. George Cape's school and later at King's School, Parramatta. He entered the Survey Office 1851,

and in same year transferred to Department of Justice and made clerk to Mr Gold Commissioner Zouch at Sofala on the Turon. From 1854 to 1856 was associate to Sir Alfred Stephen, Chief Justice of N.'S. Wales. In 1856 went to England to study law, called to the English Bar in 1859. Returning to Sydney he was admitted to the N.S. Wales Bar on 28th February, 1863. In 1865 accepted a District Court Judgeship in Queensland, resigned in 1869 and resumed practice at the N.S.W. bar. In 1872 entered N.S. Wales Legislative Assembly as member for Mudgee. Joined Parkes's first ministry as Solicitor General, appointed to the Legislative Council, and appointed Attorney General. In 1874 accompanied Sir Hercules Robinson to Fiji to negotiate the cession of these Islands to Great Britain and was in January, 1875, knighted for his services in that connection and was offered, but refused, the Chief Justiceship of the new Colony. In 1875 appointed Chairman of Committees of the Legislative Council, but resigned in 1880 to become Minister of Justice in Sir Henry Parkes's third ministry. 1881, was appointed a Puisne Judge of the Supreme Court of N.S. Wales, and died on 28th October 1896, while still in office as Senior Puisne Judge. Was a Trustee of the National Art Gallery.

ISAAC ALFRED ISAACS

Born in Melbourne, 1855, and educated at the Beechworth Grammar School and at the University of Melbourne (LL.M. 1880). Called to the Victorian bar in 1880 (Q.C. 1899). In 1892 he was returned to the Legislative Assembly for the Bogong electorate and Solicitor-General (1893-94) and Attorney-General (1894-99 and 1900-1). Leaving State for Federal politics he was elected by Indi (Victoria) to the House of Representatives and became Attorney-General in 1905-6. In the latter year he was elevated to the High Court Bench.

HENRY KENDALL (1841-1882)

Born at Kirmington, near Milton, New South Wales in 1841. He spent two years (1855-57) as a cabin boy on board his uncle's brig in the Pacific. Returning to Sydney in 1857 he began to write verse his first being published in 1859 in "The Australian Home Companion" and later in "The Empire" and "The Sydney Morning Herald." In 1862 he published "Poems and Songs" and in 1863 he was given a position in the Surveyor-General's office and in 1866 he was transferred to the Premier's office.

In 1868 he won a prize for the best Australian verse and encouraged by this success decided to earn his living as a writer, resigning his official position and moving to Melbourne. In this city he published his second volume, "Leaves from Australian Forests." He returned to Sydney in 1871 and in 1873 went to Camden Haven. During his next seven years he produced some of his best poems among which are "Orara," "Hy-Brasil," "Cooran-bean," "After Many Years." He won a prize offered by the "Sydney Morning Herald" on the Sydney International Exhibition and in 1880 published "Songs from the Mountains." In 1881 he was made Inspector of State Forests. He died at Redfern in 1882.

SIR KELSO KING, K.B.

Sir Kelso King started as a jackeroo on a Queensland Station when between 15 and 16 years of age, and after spending twelve months on the land, he joined first, the Bank of N.S.W., and, later, the Commercial Banking Co. of Sydney, with which he remained for about six years. He was appointed Secretary to the

Mercantile Mutual on the 19th December, 1877, just before his twenty-fourth birthday. Since that time he has been the Chief Executive Officer of the Company, of which he is now Managing Director.

He also holds the position of Managing Director Australian General Insurance Co.

As a public spirited citizen he has shown a tireless energy that has been the wonder of all who knew the great responsibilities he carries in the commercial world. Among his many activities those that will perhaps be of the most lasting benefit to the nation, on account of the splendid training in citizenship and development which they give to the character and physique of the youth of to-day, are the following:—

The Boy Scouts' Association.

The Royal Naval House.

The Navy League.

The Royal Life-Saving Society.

The King's School Council.

Trinity Grammar School.

The Walter and Eliza Hall Trust.

The latter includes in its work assistance to many splendid institutions, schools, colleges, and universities, essential to the development of the minds and bodies of the growing generations.

SIR GEORGE HANDLEY KNIBBS

Born in Sydney, 1858, educated as a Surveyor. In 1877 joined the staff of the New South Wales Survey Department and in 1889 was appointed to a lectureship in Surveying and allied subjects at the University of Sydney. In 1902 he was despatched by the N.S.W. Government to the United Kingdom, Europe, Canada, and the

United States to report on all branches of education. On his return (1905-6) he was appointed Director of Technical Education and was also Acting-Director of Physics at the University. In 1906 he became Commonwealth Statistician and adviser to the Federal Government on taxation and devised the mathematical formulæ which control Australian land and income tax rates. In 1921 he became Director of the Commonwealth Institute of Science and Industry, now the Commonwealth Council for Scientific and Industrial Research. He retired in March 1926.

For nine years he was Honorary Secretary of the Royal Society of N.S.W. and President in 1898-99. He presided over the Institution of Surveyors for four years (1892-93 and 1900-1); over the Society for Child Study for three years (1903-5); and over the British Astronomical Society's N.S.W. Branch for two years (1897-98). He represented the Australian Government at five International Congresses and at two Imperial Conferences and was a member of Royal Commissions on Insurance (1909-10) and taxation of Crown leaseholds (1918-19). During the war he was a member of a Royal Commission on Trade and Industry and a Consulting Member of a Committee on Munitions and carried out a war-census of persons fit for war service and another on the wealth of the Australian people.

He is a member of the *Institute International de Statistique*, an Honorary Member of the *Société de Statistique de Paris* and of the *American Statistical Association*, an Honorary Fellow of the *Statistical Society*, a Fellow of the *Royal Astronomical Society* and a Director of the *Colonial Mutual Life Assurance Society*. (C.M.G. 1911; Kt. 1923.)

SIR ADRIAN KNOX

Born in Sydney, N.S.W., 1863, and educated at Harrow and at the University of Cambridge (LL.B. 1885). Called to the bar of the Inner Temple on May 19th, 1886. Represented Woollahra in the New South Wales Legislature from 1894 to 1898. In 1906-15, and again in 1916-19, he was Chairman of the Australian Jockey Club and in 1915-16 he visited Europe as Commissioner for the Australian Red Cross Association. In October 1919 he was made Chief Justice of the High Court of Australia. In 1920 he was made a member of the Judicial Committee of the Privy Council and sat on a Commission that investigated the constitutional questions in connection with the boundary between Ulster and the Irish Free State. He was also one of the original Trustees of the Walter and Eliza Hall Trust, which he held until 1919. (P.C. 1920; K.C.M.G. 1921).

SIR EDWARD KNOX (1819-1901)

Born to British parents domiciled at Elsinor in Denmark. Educated at a leading Danish School, Soro, and at the University of Lubeck, one of the Hansiatic Free Towns. Was for a short time in a London office and left for Australia in 1839, where after ventures in farming and commerce he became Official Assignee. 1843 manager of a small sugar refining company. 1844 joined Board of Commercial Banking Company of Sydney. 1847 Manager of Bank. 1854 resigned managership of Bank to devote all his time to sugar enterprise which was then being amalgamated into the Colonial Sugar Refining Co. 1857 went to England on behalf of the Victoria Sugar Co., of which he was Managing Director. On his return he was associated with Mr. Grafton Ross in the management of the C.S.R. Co. In 1887 he arranged the amalgamation of the Sydney Company with others in Victoria and

New Zealand. While on holiday in Europe the Banking crisis occurred and he returned to Sydney March 1893. He had just been made Chairman of Directors of the Commercial Bank. He retained both Chairmanships of the Sugar and Banking Companies, until his death in 1901. He was a member of the N.S.W. Legislative Council from May 1856 to November 1857 and from December 1881 to September 1894. Closely associated with management of Prince Alfred Hospital and Chairman of Board of Directors at time of his death. He was connected with the control of the Church of England for many years especially with the Finance Committee of the Synod. For a long time he was Churchwarden in his own Parish and for more than thirty years a member of St. Andrew's Cathedral Chapter. (Kt. Bach. 1897).

REVEREND JOHN DUNMORE LANG (1799-1878)

Born at Greenock, in Scotland, in 1799. Entered the University of Glasgow at the age of twelve (M.A. 1820, D.D. 1825), received his licence to preach on June 1st, 1820. Arrived in Sydney 1823. On July 1st, 1824, laid the foundation-stone of Scot's Church on Church Hill. Later visited England to secure funds for the establishment of a Presbyterian College in Sydney, which was completed in 1835.

In 1835 he organised a Presbytery in Tasmania and in 1836 went to Scotland to secure preachers. On September 3rd, 1837, he returned to Sydney accompanied by eight ministers and four probationers.

In 1854 he was returned to the Legislative Council as member for Stanley (Moreton Bay) and was prominent in the agitation for the separation from New South Wales. He was also a firm advocate of Federation and an Aus-

tralia independent of Great Britain. He was unable to take his seat in the Council owing to the prohibition against the clergy being members of Parliament, but on this disability being removed in 1859 he took his seat and retained it until he retired from politics in 1869. He wrote several books. In 1872 he was made Moderator of the General Assembly of the Church in New South Wales. He died in 1878.

HENRY ARCHIBALD LAWSON (1867-1922)

Born at Weddin Mountain diggings, near Grenfell, N.S.W., 1867. Moved to Sydney in 1883 where he was a house and coach painter. In 1887 he was working in Melbourne and in 1889-90 at Albany, in W.A. During this period he was engaged in journalism helping his mother with her "Republican" and "Dawn." In October 1887 the "Bulletin" published his "Song of the Republic" and thereafter took most of his verses and stories. In 1891 he was on the Brisbane "Boomerang." In 1892 he was commissioned by the "Bulletin" to tramp from Bourke to Hungerford, working on the stations *en route*.

In 1893 he edited the "Worker" and then went to New Zealand. On his return he was given a post in the office of the New South Wales Government Statistician. In 1894 his first book—"Short Stories in Prose and Verse"—was published from the "Dawn" office. Thereafter he produced prolifically. He died in 1922.

SIR CHARLES LILLEY (1830-1897)

Born at Newcastle-on-Tyne, England, 1830, educated at University College, London. Was articled to a London Solicitor and emigrated to Queensland in 1856. While practising his profession in that Colony he edited the "Moreton Bay Courier." When Queensland became

a separate Colony he was elected to the first Assembly for Fortitude Valley, a suburb of Brisbane, and remained member for that constituency until he retired from politics in 1874. In 1865 he was Attorney-General and with the exception of three weeks retained it until 1867. He was Premier in 1868-70. In 1874 he was made a temporary judge of the Supreme Court and in 1879 became Chief Justice of the Colony. In 1893 he resigned from the bench and died in 1897.

He was a great educationalist and had a large part in the founding of the Brisbane Grammar School and was for many years Chairman of Trustees of that school. In 1874 he was Chairman of a Royal Commission on Education. In 1891 he was Chairman of a Royal Commission on the establishment of a Queensland University. He was also, while Attorney-General, a member of the Royal Commission which in 1866-67 revised the Statute Laws of the Colony. (Kt. Bach. 1881.)

GEORGE FAIRFOWL MACARTHUR (1825-1890)

Born at Subiaco, near Parramatta, N.S.W., 1825, and educated at King's School, Parramatta, and afterwards coached by Dr. Woolls, and studied for Anglican orders. Ordained Deacon 1848 and Priest 1849. Appointed to St. Mark's Church, Darling Point, Sydney, 1852, and while there opened St. Mark's Collegiate School. In 1858 he resigned the parish and moved his school to Macquarie Fields, about 27 miles south-west of Sydney. He modelled the school on the lines of the great English Public Schools, and established the first Cadet Corps in Australia. In 1868 he was invited to become head of The King's School, which had been closed since 1864. He accepted the post and successfully rebuilt the school. In June 1886 he resigned and lived in retirement until his death in 1890.

SIR WILLIAM MACARTHUR (1800-1882)

Born at Parramatta, N.S.W., in 1800. Educated at Grove Hall Academy, Bow, England. In 1817 he returned to Australia and devoted himself to farming and in 1839 brought out six vine-dressers to improve the Camden vineyards. In 1841 he gained medals in London for exhibits of wine and brandy and in 1844 published a book "On the Culture of the Vine, Fermentation, and the Management of Wine of the Cellar." He sat in the N.S.W. Legislative Council from 1849 to 1855 when he was made Commissioner for the Paris Exhibition and was decorated with the Legion of Honour by the French Emperor. He returned to Australia in 1857 and resumed his work at Camden Park. He repeated his success of Paris at the London Exhibition of 1862, and after his return to the Colony in 1864 was nominated to the Legislative Council. His seat lapsed in his absence in August 1882. Died in 1882 (Kt. Bach. 1856).

SIR MUNGO WILLIAM MacCALLUM

Born at Glasgow, Scotland, in 1854 and educated at the Glasgow High School and the University of Glasgow (B.A. 1875; M.A. 1877; LL.D. 1907). Won the Luke Fellowship at his University and afterwards studied at Berlin and Leipzig. Appointed Professor of English Literature and History in the University of Wales in 1879 and in 1887 became Challis Professor of Modern Literature in the University of Sydney, resigning in 1920. He was nominated Professor Emeritus and—the chair having been divided into four when he left it—Honorary Professor of English Literature. In 1898-1914 and 1916-19, he was Dean of the Faculty of Arts and an ex-officio Member of the Senate. Since 1919 he has been elected a Member of that body. Vice-Chancellor in 1924 (the first time the title was applied to the

Chief Administrative Officer of the University). In 1906-12 he was Chairman of Trustees of the Public Library of New South Wales and a member of the Commonwealth Literary Pensions Board. In 1925 the University of Oxford made him an honorary D.Litt. (K.C.M.G. 1926).

SIR SAMUEL McCAUGHEY (1835-1919)

Born at Tullynuey, near Ballymena, Ireland, 1835. Migrated to Australia in 1856. After a short experience on his uncle's Kewell Station he was made manager. In 1860, he, with two partners, bought Coonong Station and there built up a remarkable stud flock of sheep with a foundation of a draft of Widgiewa ewes and a draft of rams from Mona Vale, in Tasmania. In 1883 he bought ten Californian rams and some American ewes in Sydney and shortly afterwards visited America and brought back 524 stud sheep selected from the best strains in Vermont. In 1880 he bought Toorale and Dunlop Stations on the Darling River and in 1881 invested largely in Queensland Stations. At one time he shored a million sheep a year.

In 1899 he bought North Yanco Station on the Murrumbidgee and from a dam and pumping station a few miles above constructed many miles of channel to irrigate 40,000 acres. In 1911-12 he sold Toorale and Dunlop Stations as well as his Queensland Stations, and in 1919 he sold Coonong to his nephew, Roy McCaughey. From 1899 to 1919 he was a member of the N.S.W. Legislative Council. Died in 1919, leaving many valuable bequests to educational and charitable institutions. (Kt. Bach. 1905).

SIR FREDERICK McCOY (1823-1899)

Born in Dublin in 1823 and educated in that City and at Cambridge. He was diverted from the practice

of medicine (for which he had been trained) by a commission to arrange collections of specimens for the Geological Society of Ireland and the Royal Irish Academy. Later he was engaged on palaeontological enquiries and in 1846 was invited to Cambridge to arrange a collection in the Woodwardian Museum. During this engagement he was appointed (in 1850) to the Chair of Mineralogy and Geology at Queen's College, Belfast, and carried on the two tasks until, in 1854, his Cambridge work was completed. In 1854 he was made Professor of Natural Science at the Melbourne University and also controlled the study of geology, zoology, palaeontology, botany, mineralogy, chemistry, and comparative anatomy. Of these subjects he retained four for himself and as soon as possible handed on the remaining subjects to other teachers. His most important contribution to the Colony was the establishment, and building up, of the National Museum. In 1886 the University of Cambridge made him a D.Sc.; the Geological Society of London awarded him the Murchison Medal (1879); the Royal Society made him a Fellow (1880); and he received other honours from Societies in Italy and Austria. Died in Melbourne, 1899. (C.M.G. 1886; K.C.M.G. 1891).

SIR WILLIAM MacGREGOR (1846-1919)

Born at Towie, Aberdeenshire, in 1846. Educated at the Strathdon Manse. In 1867 entered King's College, Aberdeen. Studied medicine at Glasgow and at Aberdeen (M.B. and C.M. 1872; Watson Gold Medal; L.R. C.P. Edin. 1872; M.D. 1874; Hon. D.Sc. Camb.; Hon. D.Sc. Queensland). Also studied at Berlin, Florence, and Paris. Migrated to the Seychelles where, in 1873, he was Assistant Medical Officer. In 1874 was appointed surgeon of the Port Louis Civil Hospital, in the Mauritius. From 1875-88 he was Chief Medical Officer in

Fiji, at times acting as Receiver-General, Commissioner for Lands, Colonial Secretary and Auditor and also as High Commissioner and Consul-General of the Western Pacific. In 1876 he suppressed a disturbance in the mountains of Viti Levu, and in 1877 was appointed a member of the Native Regulation Board. In 1886, as Colonial Secretary to the Fiji Commission, he sat on the first Federal Council of Australasia; and in 1888 he was appointed Administrator of British New Guinea (Lieutenant-Governor 1895). In 1899 he was made Governor of Lagos. In 1904 he was transferred to Newfoundland.

In 1909 he became Governor of Queensland, retiring in 1914. In 1911 he was elected first Chancellor of the University of Queensland, which was established mainly through his efforts. He was awarded the Founder's Medal of the Royal Geographical Society for his explorations in the interior of New Guinea, and the Mary Kingsley Gold Medal for combating malarial fever in Lagos. He died at Aberdeen in 1919. (C.M.G. 1881; K.C.M.G. 1889; C.B. 1897; G.C.M.G. 1907; P.C. 1914.)

HUGH VICTOR McKAY (1865-1926)

Born at Raywood, Victoria, 1865, and educated at Drummarton State School. He became a farmer and in 1884 invented a harvesting machine which was an improvement on previous machines. In 1888 he built a factory at Ballarat and the merits of his machine became acknowledged both at home and abroad. In 1906 he transferred his plant from Ballarat to Sunshine, near Melbourne. There he transformed a wilderness into a model township of more than 4000 inhabitants around a factory covering 35 acres. He employed over 2000 hands. His wages bill exceeded £600,000 per annum; most of the material used in the factory is of Australian production.

During the war he was a member of the Board of Business Administration associated with the Defence Department and the Sunshine Works were used for the manufacture of munitions. He died at Rupertswood, Victoria, 1926. (C.B.E. 1918.)

SIR BERTRAM MACKENNAL

Born in Melbourne 1863. Studied sculpture under his father and at the school attached to the Melbourne Gallery. Left for London 1882, studied at the Art School of the Royal Academy. In 1885 he went to Paris and in 1886 returned to England to take charge of the Art Department of some Potteries at Coalport, in Shropshire. In 1887 he was commissioned to design and carve the panels on the front facade of the Victorian Houses of Parliament. In 1891 he returned to Paris and settled there. In 1893 he exhibited at the Salon the original model of the "Circe" now in the Melbourne Gallery and was awarded a "Mention Honorable." In 1894 he crossed to London and in 1901 and 1926 revisited Australia.

Since 1894 he has exhibited regularly at the Academy and was made an Associate in 1909—the first Australian to be admitted—and a full member in 1922. (M.V.O. 1912; K.C.V.O. 1921).

JOHN McKINLAY (1819-1872)

Born at Sandbank, on the Clyde, in 1819, and came to New South Wales in 1836 to join his uncle on a sheep-station. Ten years later he settled at Ki, on the Murray, South Australia. He began to explore the unknown country lying between the Darling and Lake Torrens, took up several runs on that area. In 1861 he was chosen by the Government to lead the search for Burke and Wills. On his return the South Australian Government made

him a grant of £1000 and in 1863 the Royal Geographical Society of England presented him with a gold watch. In 1865 he was sent to investigate the area between the Adelaide, Liverpool and Roper rivers in the hope of finding a site for the Northern Territory Capital. On his return south he settled on his farm near Gawler. Died in 1872.

SIR HENRY NORMAND MacLAURIN (1835-1914)

Born at Kilconquhar, Fifeshire, Scotland, 1835. Educated at the Universities of St. Andrews and Edinburgh (M.D. 1857). Joined the Navy in 1858 as Assistant Surgeon, served at Athens during the revolution of 1862. Later was Medical Officer at Greenwich Hospital. Retiring from the Navy in 1871 he migrated to New South Wales, settled at Sydney. In 1883 he was elected a Fellow of the University Senate; in 1885 appointed Chairman of the Board of Health and of the Immigration Board; in 1889 was nominated to the Legislative Council. In 1893-94 represented the Dibbs Ministry in that House. A Director of the Bank of New South Wales and a Trustee of St. Andrews College, within the University, and of the Royal Prince Alfred Hospital. Vice-Chancellor of the University in 1887-89 and in 1895-96 and Chancellor from 1896 until his death. Died in 1914. (Kt. Bach. 1902).

SIR WILLIAM JOHN MACLEAY (1820-1891)

Born at Wick, Caithness-shire, Scotland, 1820. Educated at the University of Edinburgh. Was trained for the medical profession but was induced by his uncle to come to Australia, arriving in 1839. He took up sheep farming near Goulburn and later on the Murrumbidgee.

In 1855 was elected to the Legislative Council by the districts of Lachlan and Lower Darling, and under the new constitution from 1856 to 1859. In 1859 was elected member for Murrumbidgee and held the seat until 1874 when he resigned to lead an expedition to New Guinea. On his return in 1877 was nominated to the Legislative Council and remained a member until his death.

In 1863 he was Chairman of a Committee of the Assembly on the defence of Port Jackson. In 1880 he was Chairman of a Commission to inquire into Australian fisheries, which resulted in the Act of 1881, still in force. In 1862 he founded the Entomological Society of New South Wales, which lapsed in 1873, but the following year was established its more comprehensive successor, the Linnean Society of New South Wales, carried on mainly through his generosity. For many years he was a Trustee of the Australian Museum (Kt. Bach. 1889).

SIR JOHN MADDEN (1844-1918)

Born at Cork, Ireland, 1844. Educated in England and France and at the University of Melbourne (B.A. 1863; LL.B. 1865; LL.D. 1869). Came with his parents to Victoria in 1857. In 1868 was admitted to the Victorian bar. In 1874 was elected Member for West Bourke. Minister for Justice 1875. In 1876 he was elected for Sandridge (now Port Melbourne) and held the seat until he retired from politics in 1883. In 1880 he was Minister for Justice. He was made Chief Justice in 1893 and in 1899 was formally appointed Lieutenant-Governor. In 1875-79 was Warden of the Senate of the University of Melbourne; in 1889-97 Vice-Chancellor and from 1907 to his death, Chancellor. During a visit to England he received honorary degrees from the Universities of Oxford and Aberdeen. Died at Melbourne 1918. (Kt. Bach. 1893; K.C.M.G. 1899; G.C.M.G. 1906).

SIR WILLIAM MONTAGU MANNING (1811-1895)

Born at Alphington, Devon, 1811. Educated at University College, London. Admitted to the English bar in 1832. In 1837 he migrated to New South Wales. In 1844 was Solicitor-General and held the post until responsible Government in 1856, with an interval during which he acted as judge. In 1851 he was appointed to the Legislative Council and took a considerable part in moulding the Constitution Bill of 1853. In 1856 was elected to the Assembly, became Attorney-General, holding office till 1857, when he retired on account of ill-health. Was appointed Attorney-General in 1859, but retired. In 1861 he was nominated to the Council and remained a member until 1876, being Attorney-General 1868-70. In 1876 he was made a Judge of the Supreme Court and Primary Judge in Equity. Retiring 1887 he devoted the rest of his life to the University of Sydney—of which he was Chancellor in 1878—and died 1895 (Kt. Bach. 1858).

SIR WILLIAM PATRICK MANNING, Kt. (1846-1915)

Born in 1846 at Surry Hills, Sydney.

Business career was commenced as Clerk in the Sydney Paper Company, and continued afterwards in the firm of P. N. Russell & Co.

Subsequently became Chartered Accountant and received appointments as Manager of the affairs of a number of large English investors in N.S.W. Was retained as Auditor of several leading Corporations including the Mercantile Mutual Insurance Company Limited (which position he held from its incorporation in 1878, until his death) and the Commercial Banking Company of Sydney.

Took a leading part in the reconstructions of various Banks. Was a Director of the Australian Bank of Commerce Ltd. Subsequently became Chairman and so continued till just prior to his death.

Entered public life as Alderman for Bourke Ward in the Sydney Municipal Council and was elected Mayor of Sydney on four consecutive occasions.

Was elected to the Parliament of New South Wales as Representative of South Sydney in the Legislative Assembly.

For many years took a leading part in the management of the Industrial Blind Institute of N.S.W. and held the position of President of the Philharmonic Society.

CONRAD MARTENS (1801-1878)

Born in the parish of Crutched Friars, near the Tower in London, England, and from his youth was devoted to art. He chose Copley Fielding, a fashionable teacher of the period, for his master. In 1832 he left England for South America and later on the *Beagle* arriving at Monte Video, replaced Augustus Earle as official topographer of the expedition. He left the *Beagle* at Valparaiso in 1834 and went to Tahiti. 1835 left Tahiti for Sydney, and set up as a drawing master. In 1844 he built for himself a cottage at St. Leonards on the northern side of the harbour. Most of his income was derived from painting or drawing big country houses for their owners and from the sale of views of Sydney Harbour—including a notable hand-coloured lithograph of Sydney from the North Shore. In 1863, when too old to continue painting he was made Assistant Parliamentary Librarian. He died in 1878.

SIR JAMES MARTIN (1820-1886)

Born at Midleton, Ireland, 1820, and arrived New South Wales in 1821. Educated at the Sydney Academy and Sydney College. He joined the staff of the "Australian." In 1838 he published a small book of essays. In 1840 he was articled to G. R. Nichols and in 1845 was admitted a Solicitor. When the "Atlas" was established in 1844 he contributed largely and later became editor. In 1848 he was elected to the Legislative Council for Cook and Westmoreland, but was unseated on petition, not having the requisite property qualification. In 1849 he was returned unopposed and retained the seat until the dissolution of the Council in 1856. Under responsible Government he became Attorney-General and in 1857 was called to the bar, resigning his office the following year. In 1863 he became Premier and Attorney-General, and again formed a ministry in 1866. In October 1868 he resigned, but from 1870-72 was again Premier and Attorney-General. In 1873 he was appointed Chief Justice of New South Wales. From 1858 to 1878 he was a member of the Senate of the University of Sydney. Died in 1886. (K.C.B. 1869).

SIR ARCHIBALD MICHIE (1813-1899)

Born at Winchester in 1813 and educated at Winchester School. Studied law and was called to the bar at the Middle Temple 1838. Migrated the next year to Sydney and was admitted to the local bar, combining the practice of the law with journalism. In 1848 he was elected first Chairman of the Australian Mutual Provident Society. Settled at Melbourne when he became a nominee member of the Council. Dropped politics to own the "Herald" and became famous through his successful defence of the Eureka rioters in 1855. He represented Melbourne in the Legislative Council (1856-

59); St Kilda (1859-61); Polwarth (1863-66); St Kilda (1866-68); and South Gippsland (1868-71); and sat in the Council during 1871-72. Was Attorney-General in 1857-58; Minister for Justice, 1863-66; Attorney-General, 1870-71; and in 1873 was appointed Agent-General, which post he held until 1879 when he returned to Melbourne and retired from politics. He died in 1899 (K.C.M.G. 1878).

SIR DENISON SAMUEL KING MILLER (1860-1923)

Born near Wollongong, N.S.W., 1860, and educated at Deniliquin Public School. In 1876 he entered the employ of the Bank of New South Wales and during 36 years' service rose to be Chief Metropolitan Inspector. In 1912 the Commonwealth Government appointed him Governor of the newly established Commonwealth Bank and he proved himself one of the leading financial men of the country. Died in 1923. (K.C.M.G. 1920).

DAVID SCOTT MITCHELL (1836-1907)

Born in Sydney, 1836. Was admitted to Sydney University (B.A. 1855; M.A. 1859). Called to the bar in 1858, he never practised. His interests were in literature and he wrote occasional verses. He refused to enter politics, although offered the Attorney-Generalship. In 1871 he began to gather what is now the greatest collection of Australiana in the world.

In 1898 he communicated to the Trustees of the Public Library his intention to bequeath his collection to them, together with an endowment, provided they were constituted a corporate body, stipulating that the Government should provide suitable accommodation and preserve his collection intact in a separate wing or set of

rooms to be known as the "Mitchell Library" and make it freely available to students on conditions similar to those obtaining at the British Museum. In the following year, on the trustees being formed a Corporate Body, he handed over 10,000 volumes and 50 pictures.

In 1906 the foundation-stone of the "Mitchell Library" was laid and he set aside £70,000 for the endowment of the Library. The building was still under construction when he died in 1907. After his death some 61,000 volumes, manuscripts, maps, views, portraits, etc. were taken over by the Trustees.

SIR JOHN MONASH

Born at Melbourne, 1865, educated at the Scotch College and at the University of Melbourne (M.C.E. 1891; B.A. 1895; LL.B. 1895). In 1884 commenced practice as a civil engineer. In 1900 he introduced reinforced concrete construction into Victoria, Tasmania, and South Australia. In 1913-15 was President of the Victorian Institute of Engineers. He was an enthusiastic officer of the citizen forces. In 1887 he received his first Commission: (Lieutenant, 1887; Captain, 1895; Major, 1897; Lieutenant-Colonel, 1908; Colonel, 1913; Brigadier-General, 1914; Major-General, 1916; Lieutenant-General, 1918). In 1901 he commanded the North Melbourne Artillery, and from 1907 to 1914 was an officer of the Intelligence Corps. On the outbreak of the war he was appointed Chief Censor for Australia. Within a month he was given command of the 4th Infantry Brigade and accompanied it to Gallipoli. On the transfer of his Brigade to France he was given the command of the 3rd Australian Division. In 1918 he succeeded General Birdwood in command of the Australian Army Corps in France. After the Armistice he was appointed Director-General of Demobilization for

the A.I.F. In 1920 he was made Doctor of Engineering, and in the same year the Victorian Government appointed him Chairman of the State's Electricity Supply Commission. In 1924 he was President of the Australasian Association for the Advancement of Science. (C.B. 1915; K.C.B. 1918; G.C.M.G. 1919.)

THOMAS SUTCLIFFE MORT (1816-1878)

Born on 23rd December 1816 at Bolton in Lancashire, England. In 1838 he arrived at Sydney and was employed by Aspinall Brown & Co. as salesman and clerk. In 1841 he helped promote the Hunter River Navigation Company (later Australasian United Steam Navigation Company). In 1843 he commenced business as Auctioneer and Wool Broker and began experiments in exporting cured animal foods to England. In 1845 he initiated Mort & Co. and in 1849 promoted the first railway in New South Wales—the Parramatta-Sydney Railway. In 1851 he promoted the "Great Nugget Vein Mining Co." In 1854 he commenced excavation of Mort's Dock—the largest in Australia. In 1856 he established Bodalla Farm (38,000 acres) in Southern Coastal District (dairying) and in the early 1860's promoted the Peak Downs Copper Mining Co. (Queensland) and the Waratah Coal Mining Company (Newcastle). In 1863 he enlarged the docking business and established a shipyard and engineering works—later merged into Mort's Dock & Engineering Company. In 1870 he commenced his experiments in exporting frozen meat to England. In 1873 he provided his workmen with shares in the Mort's Dock & Engineering Company. In 1875 he established a slaughter-house and freezing-works at Lithgow and ice-works at Darling Harbour. Died in 1878 at Bodalla, May 9th.

ARTHUR ALEXANDER WALTER ONSLOW
(1833-1882)

Born at Trichinopoly, in India, 1833, and brought to Sydney in 1838. Taken to England in 1841 and entered on board H.M.S. *Howe* as a midshipman, May, 1847 (Lieutenant 1852; Commander 1863; Post Captain 1871). Served in the Channel and Mediterranean Squadrons and off the west coast of Africa (1850-51). For four years he was engaged in the survey of Shark Bay, Torres Straits, and the external reefs of the Great Barrier. Returning to England in 1861 he served in the Gulf of Mexico and the Mediterranean. He left the service owing to bad health and came to reside in Sydney. In 1874 he accompanied William Macleay in an exploration of the New Guinea coast. He was elected to the Assembly, for Camden, in 1869 and was appointed to the Legislative Council in 1880. Died in 1882.

FRANCIS ORMOND (1829-1889)

Born at Aberdeen, Scotland, 1829, and educated in Liverpool. He was brought to Victoria by his parents in 1842 where after an adventure in commercial life he became a squatter. He was a great educationalist and gave £100,000 to Ormond College, within the University; £20,000 to endow a Chair of Music at the University and £11,000 to the Melbourne Working Men's College. He also left large sums to hospitals and asylums. Died in France 1889. From 1882 to his death he was a member of the Victorian Legislative Council.

SIR WILLIAM OWEN (1834-1912)

Born on 4th November 1834 and educated at Cheltenham and at Trinity College, Dublin. He was called to Irish Bar in 1859. Arrived in Sydney, 1860. Ad-

mitted to the N.S.W. Bar the same year. Q.C. 1882, and in 1887 Chief Judge in Equity. He was transferred to Common Law side of the Supreme Court in 1896. In 1892 he was a member of a commission to investigate the charges brought by a Member of Parliament against the Chief Commissioner for Railways. In 1905 he was given sole charge of the investigation into the scandals connected with the administration of the Crown Lands. He was Head of the tribunal that cancelled many wrongly obtained leases and whose decisions, when questioned, were expressly validated by Act of Parliament. Retired in 1908 from Bench and died 22nd November, 1912. (Kt. Bach. 1906).

SIR PETER NICOL RUSSELL (1816-1905)

Born at Kilcaldy, Scotland, 1816, and came to Hobart in 1832. In 1839 he settled in Sydney and with his two brothers established the firm of P. N. Russell & Co., in 1842, blacksmiths, engineers and founders, which became one of the most important businesses in Australia. In 1867 he retired from active business to settle in London where he represented the firm. In 1875 the business was closed down. In 1896 he gave £50,000 to endow the Department of Engineering at the University of Sydney, and in 1904 another £50,000 on condition that the Government gave £25,000 to erect new buildings for the department. He died in London 1905. (K.C.M.G. 1904).

JAMES RUTHERFORD (1827-1911)

Born at Erie, U.S.A., 1827. In 1852 migrated to Victoria. Visited Brisbane and returning overland became interested in horse-dealing. Later he acquired an interest in the coaching business of Cobb & Co. He reorganised

and extended the Victorian services and secured a monopoly of the mail contracts. In partnership with Walter R. Hall and W. F. Whitney the New South Wales business was established, Rutherford making his headquarters at Bathurst. The business was extended to Queensland in 1865. By 1870 Cobb and Co. were harnessing 6000 horses per day, their coaches were travelling 28,000 miles per week, their annual pay-sheet exceeded £100,000 and they received £95,000 per annum in mail subsidies.

The firm gradually acquired extensive pastoral properties in New South Wales and Queensland and imported prize stock on a large scale. Rutherford also founded the Eskbank Ironworks at Lithgow. He died at Mackay, in Queensland, 1911.

SIR GRANVILLE DE LAUNE RYRIE

Born at Michelago in New South Wales, 1865, and educated at The King's School, Parramatta. He was elected by Queanbeyan to the Legislative Assembly of New South Wales (1906-9) and was Member for North Sydney in the Commonwealth House of Representatives (1911) Honorary Minister (1920) and Assistant Minister for Defence. He joined the 1st Australian Horse (2nd Lieutenant 1898; Lieutenant 1899; Captain 1901; Major 1903; Lieutenant-Colonel 1904; Colonel 1914; Brigadier-General 1914; Major-General 1919) and was for seven years in command of the 3rd Light Horse Regiment, New South Wales. Served with the Mounted Rifles in the South African War (1900-1). He was appointed to the command of the 2nd Light Horse Brigade in 1914 and served with it through the greater part of the Gallipoli campaign, and afterwards in Palestine. In 1919 he was promoted to the rank of Major-General and for some time commanded the A.I.F. in Egypt. In 1927 he was appointed High Commissioner at London for Australia (C.M.G. 1916; C.B. 1918; K.C.M.G. 1919.)

SIR MARK SHELDON

Born at Armidale, New South Wales, 1871. Educated at Riverview College, St. Cuthbert's College, Ushaw, Durham, England, and at the University of Sydney. He entered the firm of Dalton Bros. in 1890 and in 1902 was made Managing Director. Was elected a Director of the Australian Bank of Commerce and Chairman, which office he retains. In June 1919 he succeeded Sir Henry Braddon as Australian Commissioner to the United States, America, and in 1922 was a Representative of the Commonwealth at the annual meeting of the League of Nations. In 1924-25 was a member of the British Economic Commission sitting in London. In 1925 he returned to Australia and resumed his commercial career. (Kt. Bach. 1922; K.B.E. 1925).

JOHN McGARVIE SMITH (1844-1918)

Born at Paddington, near Sydney, in 1844. Studied chemistry at the University of Sydney and qualified as a Metallurgist, devoting himself to devising treatments for refractory ores. Later he interested himself in bacteriology, erected a specially equipped laboratory and engaged a Viennese bacteriologist to instruct him in microbiology. In 1893 he reported to the Metropolitan Board of Water-Supply and Sewerage on germs found in the Sydney sewers. He discovered a vaccine for anthrax which gives protection by a single inoculation and keeps indefinitely. He aided the establishment of a McGarvie Smith Institute, controlled by a Board representing the Government and Pastoralists of New South Wales to manufacture and distribute the vaccine. Died, 1918.

SIR ROSS MACPHERSON SMITH (1892-1922)

Born at Semaphore, South Australia, 1892. Educated at The Queen's School, North Adelaide, and at

Moffat, Scotland. Entered on a business career in Adelaide and in 1914 enlisted in the A.I.F. with the 3rd Light Horse (2nd Lieutenant 1915; Lieutenant 1916; Lieutenant A.F.C. 1917; Temporary Captain 1917; Captain 1918). Was in Egypt and Gallipoli. In 1916 he qualified as observer in the Australian Flying Corps and gave valuable air service. In 1919, he and his brother Keith, won the prize of £10,000 offered by the Commonwealth Government to the first Australian airman who should reach Australia by air within 720 consecutive hours' flying, in a machine constructed wholly within the British Empire and manned by an all-Australian Crew. Smith accomplished the task in 135 flying hours covering a distance of 11,340 miles; the machine used being a Vickers-Vimy aeroplane. The crew were Ross Smith, Keith Smith, and Sergeants J. M. Bennett and W. H. Shiers.

After a stay of some months in Australia Ross Smith left for England to arrange for a flight around the world. During trial flights the machine crashed and he was instantly killed (1922) (K.B.E. 1919).

SIR WILLIAM FOSTER STAWELL (1815-1889)

Born in County Cork, Ireland, 1815. Educated at the University of Dublin (B.A. 1837, Hon. LL.D. 1874). Studied law at King's Inn, Dublin and at Lincoln Inn. Called to the Irish Bar in 1839 and in 1841 migrated to Australia. Admitted to the Port Phillip bar and for some years combined legal practice with pastoral work. In 1851, when the Colony of Victoria was established, he became Attorney-General, and drafted the Constitution Act of 1854. He was returned at the first Victorian elections and became Attorney-General. In 1857 he resigned his seat and became first Chief Justice of the Colony. In 1886 he resigned the Chief Justiceship and in 1887 was appointed Lieutenant-Governor.

In 1889 he went to Europe on account of ill-health, and died at Naples, 1889.

He was a strong supporter of scientific work and in 1858-9 was President of the Philosophical Institute of Victoria. He was one of the original Trustees of the Victorian Public Library (1853-89) and Chancellor of the Melbourne University in 1881-82. (Kt. Bach. 1858; K.C.M.G. 1886).

SIR ALFRED STEPHEN (1802-1894)

Sir Alfred Stephen, born at Basseterre, St. Christopher, West Indies, on August 20th, 1802, was educated at the Charterhouse and at Honiton Grammar School, England. Entered Lincoln Inn in 1818, was called to the bar in 1823. In July, 1824, went to Hobart as Solicitor-General and was admitted to the local bar in February 1825, and on April 25th was also appointed Crown Solicitor. He organised Courts of Justice, framed statutes for the Legislature and advocated trial by jury—which was conceded in 1834. From 1833 to 1837 he was Attorney-General to the colony. In 1839 he was appointed temporarily to Judge Burton's place on the Supreme Court Bench, New South Wales, and when in 1841 Burton resumed duty was made a puisne judge. In 1844 appointed Chief Justice. 1856 became President of the first Legislative Council under responsible Government but retired from the Council in 1858. In 1870 he presided over a Commission to revise the Statute Laws, the labours of which were made law in 1883. In 1873, after 29 years' service retired from Chief Justiceship and in March 1875 was nominated to the Legislative Council. In November of that year was made Lieut-Governor. His seat in the Council was vacant during March-August, 1879, and between November-December, 1885, to allow him to administer the Colony, after these re-

tirements was immediately renominated to the Council. He retired from the Council altogether in October 1890 to administer the colony in the absence of Lord Carrington. He died at Sydney on October 15th, 1894. (Kt. Bach., 1846; C.B., 1862; K.C.M.G., 1874; G.C.M.G., 1884; P.C., 1893.)

SIR MATTHEW HENRY STEPHEN (1828-1920)

Born at Hobart 5th December, 1828. Arrived in Sydney, 1839. Educated Sydney College. Became associate to Chief Justice Dowling, sent to England for legal study. On his return was associate to his father Sir Alfred Stephen. Admitted N.S.W. Bar 30th November 1850—the first native Australian to be admitted and first colonial Barrister to be admitted under the Colonial Act. On several occasions refused the Solicitor-Generalship. In December, 1869, he was elected by Mudgee to Legislative Assembly and resigned in 1871. In 1880 he took silk. In 1887 he was made Puisne Judge and in 1902-3 was Acting Chief Justice, but retired at end of 1903. Died April 1920.

JOHN TEBBUTT (1834-1916)

Born at Windsor, New South Wales, 1834, and educated at the Parish School. In 1843 commenced the study of astronomy and in 1853-57 published his observations on the variable star Eta Argus. In 1862 he refused the appointment as New South Wales Government Astronomer. In 1863 he erected a small observatory on the Peninsula, Windsor. In 1879 he built a brick observatory, installing a transit instrument and equatorial refractor of 8-in. aperture, 115-in. focal length. In 1881 he discovered another comet which he successfully pho-

tographed. In 1895 he was chosen first President of the British Astronomical Association (New South Wales Branch). He died at Windsor, 1916.

SIR EDWARD DEAS THOMSON (1800-1879)

Born at Edinburgh, 1800. Educated at the Edinburgh High School, at Harrow and at Caen, in Normandy. Studied mercantile methods and helped his father to introduce into the Navy the double-entry system of book-keeping. In 1826 he visited the United States and Canada, and in 1827 was appointed a registrar at Demerara, in British Guiana. The clerkship of the N.S.W. Legislative Council being vacant he effected an exchange and reached Sydney in 1828. In 1837 he became Colonial Secretary. In 1854 he went to England to watch the passage of the Constitution through the English Parliament. When responsible Government was established he retired from the Colonial Secretaryship. He was invited to form the first ministry but failed and became an original member of the Legislative Council—in 1861 he was appointed a life member.

He was an ardent supporter of higher education, and in 1849 was a member of the select committee to inquire into the establishment of a University. He was appointed to the University Senate in 1850, became Vice-Chancellor in 1862, and was Chancellor from 1865 to 1878. For many years he was president of the Australian Jockey Club. He died in Sydney in 1879. (C.B. 1856; K.C.M.G. 1874.)

SIR CHARLES TODD (1826-1910)

Born at Islington, London, 1826. Educated privately. In 1841-47 supernumerary computer at Greenwich Observatory and in 1848 became Assistant Astrono-

mer at the Cambridge Observatory, where he helped to determine the telegraphic distance between Cambridge and Greenwich. In 1854 he was recalled to Greenwich to take charge of the Galvanic Department and in 1855 was appointed Superintendent of Telegraphs for South Australia and a Director of the Adelaide Observatory. In 1859 he suggested the construction of a line from Adelaide to Port Darwin and thence to England. In 1870 he became Postmaster General. He supervised the construction of the line between Adelaide and Port Darwin and in 1872 completed it; communication with England being established on October 21st. He then built 1000 mile line to Eucla where it joined up with the Western Colony's telegraphic system. In 1889 he was made a Fellow of the Royal Society, and retired from public service in 1906, having been Government Astronomer for 51 years. He died in 1910. (C.M.G. 1872; K.C.M.G. 1893).

JAMES TYSON (1823-1898)

Born at Cowpastures, 1823. Commenced his pastoral work as working overseer at Morton Park, near Camden. In 1844 he took up Barwidgee Station in the Ovens District. Later he joined his brother in forming Gunambill Station on the Billabong. The venture was at first unsuccessful but in 1851 their fortunes changed. He took droves of cattle to the diggings at Bendigo and in four years had accumulated enough money to buy up several Riverina runs, among them Deniliquin and Juanbong. Soon after he bought Heyfield in Gippsland, Felton, on the Darling Downs in Queensland and several stations along the Warrego. In 1892, in a time of financial depression, he took up £250,000 of Treasury Bills and his public spirit was acknowledged by an appointment to the Legislative Council. He died in 1898 leaving an estate worth two and a half millions.

SIR SAMUEL JAMES WAY (1836-1916)

Born at Portsmouth, England, 1836, and educated privately. He emigrated to Australia in 1853. Trained for the law, he was admitted to the local bar in 1861 (Q.C. 1871). In 1874 he was made a member of the Board of Education and of the first Council of the University of Adelaide, becoming Vice-Chancellor in 1876 and Chancellor from 1883 to his death. In 1875 he was elected to the Assembly for the Sturt District and was made Attorney-General, resigning in 1876 to take the office of Chief Justice of the Colony. In 1891 he was made Lieutenant-Governor. In 1897 he was sworn in as a Privy Councillor and took his seat on the Judicial Committee of the Privy Council as the first representative Australian Judge. He died at Adelaide, 1916.

ALBERT BYTHESEA WEIGALL (1840-1912)

Born at Nantes, Normandy, France, in 1840, and educated at the Macclesfield Grammar School and at Brasenose College, Oxford (B.A. 1862). Arrived in Melbourne in 1863 to take up the position of classical master at Scotch College. In 1866 he was appointed to the headmastership of the Sydney Grammar School, which post he retained for 45 years. In 1880 he helped to found the Headmasters' Association and later the Teachers' Association (now the Teachers' Guild). He died in 1912. (C.M.G. 1909.)

SIR CYRIL BRUDENELL BINGHAM WHITE

Born at St. Arnaud, Victoria, 1876. Educated at the State School at Hendra (a suburb of Brisbane) and at Nundah. Entered the service of the Australian Joint Stock Bank at Brisbane in 1892 and resigned in 1899.

Was appointed provisional lieutenant in the militia in 1896 (Lieutenant 1897) and later joined the Queensland permanent artillery (Captain 1908; Major 1911; Lieutenant-Colonel 1914; Colonel 1915, Brigadier-General 1915; Major General 1917; temporary Lieutenant General 1918). He served through the South African war as a subaltern in the 1st Commonwealth Horse and after returning to Australia in 1904 was aide-de-camp to Major General Sir Edward Hutton, Commander-in-Chief of the Australian Forces. He was the first Australian officer chosen to attend the Staff College at Camberley, England, and was retained for several years after his course ended. On his return to Australia he became Director of Military Operations.

On the outbreak of the war of 1914-18 General Bridges chose him as his Chief of Staff. During the Gallipoli campaign he was appointed Chief of General Staff of the Australian and New Zealand Army Corps and formed the scheme for the evacuation of the peninsula. As Birdwood's Chief of Staff he was responsible for planning the Australian operations in France. When Birdwood was transferred to the command of the Fifth British Army, White was transferred with him, acting as Chief of General Staff until the end of the war.

Returning to Australia in 1919 as Lieutenant-General to advise the Commonwealth Government on future military organisation, he became Chief of the General Staff and was appointed Chairman of Commissioners of the Commonwealth Public Service Board. In 1928 he retired and accepted the office of Superintendent of the New Zealand Loan and Mercantile Agency Co. Ltd. in Australia.

(D.S.O. 1915; C.B. 1916; C.M.G. 1918; K.C.M.G. 1919; K.C.V.O. 1920).

JAMES WHITE (1828-1890)

Born at Scone, New South Wales, 1828. Educated at the King's School, Parramatta. On his father's death in 1844, he took over the management of several estates, including Edenglassie, near Muswellbrook, and Timor, on the Isis. To these he added until he owned the greater part of the Hunter Valley, above Denman. He represented the district in the Assembly (1864-68) resigning in order to travel. He contested the constituency again in 1872 and was defeated; and was nominated to the Council in 1874 and sat there until his death. He was a great patron of the turf and won, at one time or another, nearly every important race listed at Australian meetings; and owned (among other notable racehorses) Martini-Henry and Nordenfeldt; and with Chester in 1877 won that much-coveted double—the V.R.C. Derby and the Melbourne Cup. He died at Rose Bay in 1890.

EDWARD WILSON (1814-1878)

Born at Hampstead, England, and trained for commercial pursuits. Migrated to Port Phillip in 1842. In 1844 he joined J. S. Johnson in a cattle station near Dandenong. While managing this station he wrote some letters to the Melbourne press that encouraged him to take up journalism as a profession. In 1847, joined by Johnson, he bought the "Argus" and in 1851 incorporated it with the "Daily News." In 1857 he visited England and on his return travelled in Queensland, South Australia, and New Zealand; eye-trouble preventing him taking part in the management of the paper. In 1864 he returned to England and settled in Kent. He died in 1878 leaving the greater part of his wealth to philanthropic objects in Victoria.

He was the founder of the Acclimatization Society of Victoria in 1861, and one of the founders of the Royal Colonial Institute, in 1868.

SIR SAMUEL WILSON (1832-1895)

Born at Ballycloughan, Ireland, 1832, and educated at Ballymena. In 1852 he migrated to Australia to join his brothers and worked for a time on the Victorian Gold-fields. He then settled down to station life, commencing as Manager of his brother's station and then joining in the purchase of Longerenong Station, in the Wimmera; later purchasing other stations near by. Early in the seventies he sold his Wimmera station and bought property on the plains between Camperdown and Ballarat. He was also interested in squatting properties in the Darling District of New South Wales and the Peak Down District of Queensland. He was a great breeder and acclimatiser, interesting himself not only in sheep, but in Angora goats, salmon, trout and ostriches. He was elected member for Wimmera in the Victorian Legislative Assembly in 1861 and from 1875 to 1880 represented the Western Provinces in the Council. He went to England and entered Parliament as member for Portsmouth, resigning in 1892. In 1874 he gave £30,000 to build the Wilson Hall at the University of Melbourne. He died in England in 1895. (Kt. Bach. 1875).

SIR WILLIAM CHARLES WINDEYER (1834-1897)

Born at Westminster 29th September 1834. Son of Richard Windeyer and was a member of the first Parliament of N.S.W. Educated at King's School, Parra-

matta, and Sydney University, being one of the first matriculants and the first graduate of that body (B.A. 1856; M.A. 1859). Called to N.S.W. Bar in 1857 and became law reporter of the "Empire." Entered Legislative Assembly 29th June 1859 and for the greater part of the succeeding twenty years followed a political career (member for Lower Hunter 1859-60; for West Sydney 1860-62; 1866-72; for the University 1876-79). Initiated Volunteer Movement in 1860 and was elected Captain 1860; Major 1868. After many refusals of office he became Solicitor-General (1870) in the Martin Ministry and was Attorney-General in the Parkes Ministries of 1877 and 1878. Resigned office August 1879 to become temporary judge of the Supreme Court, and in August 1881 was made a Puisne Judge—an appointment he held for 15 years. In 1896 he resigned on a pension and the Colonial Government submitted his name to represent Australia on the Judicial Committee of the Privy Council, but Sir S. Way, from South Australia, was chosen. He was asked to act as emergency judge in Newfoundland by the British Government, but whilst touring Europe before taking up his position he died of appendicitis and was cremated at Bologna, in Italy, on 12th September 1897.

Apart from politics and the law Windeyer had many public interests. He was a strong advocate of open spaces for the people, and in 1862 secured for them both the smaller Sydney parks and in 1878 Clark Island, Shark Island, and several other islands in Port Jackson and Broken Bay. In 1874 originated the Discharged Prisoners' Aid Society. His special interest in Education was shown not only in Parliament but by his active work for the University (of which he was Vice-Chancellor in 1883-87 and Chancellor 1895-96), and Women's College (of whose Trustees he was Chairman), the Sydney

Grammar School (of which he was a Trustee from 1873 onwards and for many years Chairman of Trustees), and the Sydney School of Arts. In 1887 was granted LL.D. degree by Cambridge University. (Kt. Bach. 1891.)

Among other distinguished Citizens can be mentioned the following, who have given their valued services to Australia:—Hon. Mr Justice Hargrave, Hon. Mr. Justice Faucett, Hon. Sir F. B. Suttor, A. T. Holroyd, Charles Cowper, John Williams (Crown Solicitor), Hon. Sir G. Wigram Allen, Hon. Edward Butler, Q.C., Hon. Charles Campbell, Hon. John Campbell, Hon. Mr. Justice C. J. Manning, C. E. Pilcher, M.L.A., G. H. Fitzhardinge, C. B. Stephen, Hon. Mr. Justice R. D. Pring, Hon. Mr. Justice R. E. O'Connor, Sir John Hogg, Hon. Alfred Deakin, William Farrer, Mr. Shephard Smith, G.M., Bank of N.S.W., Edward Chisholm, Christopher Rolleston. H. A. Armitage, Melbourne, Grazier and Company Director; Hon. James Ashton, Sydney, M.L.C., Minister for Lands in former Government and Acting Premier, Grazier and Company Director; Hon. W. L. Baillieu, Melbourne, Director and Founder of many Industrial and Mining Companies; H. L. Austin, Grazier, "Eli Elwoli," Hay, celebrated for Stud Merino Sheep and Shorthorn Cattle.

THE "WALTER AND ELIZA HALL" TRUST.

Chief among princely donations bestowed by the generous, stands the "Walter and Eliza Hall" Trust, founded for educational and benevolent purposes by Mrs. Eliza Rowdon Hall after the death of her husband in 1912.

The wonderful discovery in 1882 of the mountain of gold afterwards known as Mount Morgan yielded fortunes to all who had the foresight to hold their interests during its early vicissitudes. Among these was the late Walter Hall, one of the principal shareholders. This addition to his wealth, however, did not inspire extravagant or selfish thoughts in its possessor. Remembering his own career, which had not been free from anxious and troublous times, he viewed with sympathy the trials of the younger generation, which he endeavoured by every means to lessen, so that he might help young aspirants to success or alleviate the distress of failure. His widow resolved to carry on in perpetuity the good work which he had begun. Hence the "Walter and Eliza Hall" Trust—a noble memorial.

Mrs. Eliza Rowdon Hall was the eldest daughter of the late Mr. George Kirk, who was associated as a pastoralist with the late Richard Goldsbrough, one of the founders of the great woolbroking firm of Goldsbrough, Mort and Co. Soon after the death of her husband Mrs Hall founded, with a munificent donation of a million pounds sterling, the "Walter and Eliza Hall" Trust—

the largest gift made to charity by any woman in our Empire. Its objects were:—

- (a) The relief of poverty.
- (b) The advancement of education.
- (c) The advancement of religion in accordance with the tenets of the Church of England.
- (d) The general benefit of the community in ways not falling under any of the preceding headings.

One-half of the annual income is for distribution in New South Wales, a quarter in Victoria, and a quarter in Queensland.

So far as is practicable, one-third of the income devoted to each State is primarily for application to the benefit of women and children.

The sum distributed during 1928 was £46,293 8s. 9d., while the total expenditure on administration—which is kept as low as possible—scarcely exceeded three per cent.

As the first trustees Mrs. Hall appointed Messrs. R. G. Casey, Kelso King, Adrian Knox, and J. Russell French, all well known in commercial life. Brigadier-General Finn, C.B., D.C.M., a distinguished Imperial officer, was the first Secretary.

The “Walter and Eliza Hall” Trust was declared on 24th May, 1912, and came into operation on 1st January, 1913. Since that date it has helped a great number of charities, and relieved thousands who would otherwise have been practically destitute. Education, in both universities and schools, is also being endowed, and grants are made to assist in the building, establishing, and extension of schools. The total distribution during the sixteen years to December 1928 amounted to £629,471 11s. 2d.

On February 14th, 1916, Mrs. Hall died at her

home, "Wildfell," Potts Point, Sydney. She was sincerely lamented and will ever be remembered for her unaffected, kindly, and generous disposition.

The present trustees are Messrs. Kelso King, P. V. McCulloch, G. E. Fairfax, G. M. Merivale, and C. M. C. Shannon. The Secretary is Miss K. H. Finn.

FIFTY YEARS OF PROGRESS OF THE
MERCANTILE MUTUAL INSURANCE CO. LTD.

THE BIRTH AND GROWTH OF THE MERCANTILE MUTUAL INSURANCE COMPANY, LIMITED

DURING the autumn of the year 1877 cricket authorities in Australia decided to send an eleven to England. After some controversy the team was chosen, including the two Bannermans, Murdoch, Horan, D. Gregory, Blackham, Bailey, Boyle, Spofforth, Kendall, and Allen. Many critics claimed that the team was not representative, and eventually, to place the question beyond dispute, a New South Wales fifteen was chosen to play the Australian Eleven. The New South Wales team comprised Sheridan, Gregory, Humphreys, Geary, Evans-Rush, Powell, Tindall, Dummett, Pocock, Burrowes, Docker, Webster, Hannigan, and Brown. The match was played on November 23-25 and resulted in a win for the Australian eleven by four wickets.

Among the spectators at the match on the Sydney Cricket Ground was Mr George Hardie. His attention was, however, diverted, for that morning he had been approached by G. Allen Mansfield, the leading Sydney architect, and A. H. McCulloch, one of the best-known solicitors, with a proposal for a new Insurance Company. The suggestion had caught his imagination, and, as he moved through the grounds, he spoke of the matter to several friends. He found the idea well supported, and before the end of the day had received promises of a very large portion of the capital required.

During the next week Hardie, Mansfield, and McCulloch started to give practical shape to their new Company and draft the prospectus. While they worked, new friends were coming forward with requests to be allotted shares, until, by the time their work was ready to go to the printer, they had received applications for the whole of the capital.

A little before Christmas 1877 a meeting of the shareholders of the new Insurance Company was held, and John Pope (Chairman), G. Allen Mansfield, W. H. Paling, George Hardie, and Captain Broomfield were elected directors. The prospectus provided for a capital of 100,000 shares of £1 each.

In response to the advertisement for the post of secretary to "The Mercantile Mutual Insurance Company" a large number of applications were received, and after very careful consideration Kelso King, a young man of twenty-four years of age, was appointed. How wise this selection was is shown by the fact that Mr. King has been the chief executive officer of the Company through the fifty years of its life and now holds the position of Managing Director.

The location of the offices of the new Company gave the directors much anxiety. At that time ground-floor offices were very difficult to secure in Sydney. Only by chance did the secretary become aware that Mr. Reed, a second-hand piano dealer, was prepared to dispose of his lease of two small rooms in Pitt Street for the sum of £50. These premises were in a building on the site where now stands the Piccadilly Theatre. It should be noted that, while the lease was then considered worth only £50, the present building was sold a few weeks ago for a price approximating £1592 per foot.

The registration of the Company was secured on January 10, 1878, and the Mercantile Mutual Insurance

Company Limited immediately opened its doors for business.

The new Company proved highly attractive to important Sydney people. Most of the prominent business and professional men of that era appear on its Share Register, and from the first day applications for insurance came in freely. The remarkable development shown in the following table gives ample proof of the confidence felt by Australians in their own institution.

Premium Income for	Quinquennium to	June 30,	1883	....	£65,268
"	"	"	1888	....	83,937
"	"	"	1893	....	177,788
"	"	"	1898	....	212,889
"	"	"	1903	....	273,416
"	"	"	1908	....	327,947
"	"	"	1913	....	520,665
"	"	"	1918	....	957,550
"	"	"	1923	....	1,616,914
"	"	"	1928	....	3,526,839

It is of interest to note that at the date of the founding of the Mercantile Mutual Insurance Company the total population of Australia was less than the present population of New South Wales. Of the State populations Victoria had a commanding lead, with 860,787 as against 662,212 in New South Wales. South Australia came third with 236,864, and Queensland fourth, with 203,084 inhabitants in her vast territory. Tasmania had 107,104, and Western Australia, a State comprising one third of the whole continent, only 27,838.

The Mercantile Mutual Insurance Company remained in the small offices only until 1879, when larger premises became imperative and a move was made to 131 Pitt Street. A further move was made in 1886 to a freehold acquired at 118-120 in the same street, on which was erected a building containing four floors and a basement. In 1914 the Company had again outgrown these quarters and purchased the handsome building at 12-16 Martin Place, the commercial centre of the city.

Finding that the requirements of the staff and the convenience of the public necessitated greater ground-floor space, and ascertaining that the Martin Place property could be sold at a substantial profit on the original purchase, the directors decided to acquire and demolish the buildings at 117 Pitt Street and to erect the handsome premises now occupied by the company. The building is the full height of 150 feet allowed by law. It covers an area of 61 ft. 6 in. to Pitt Street, with a depth of 137 ft. to 141 ft. at the rear. There is a spacious ground-floor and a lower ground-floor, both well-lighted and mechanically ventilated. Above, there are ten upper floors and a flat roof for the recreation of the staff. The building is constructed of steel framing with concrete floors. The front elevation, to the floor level of the second floor, has been carried out in trachyte, with six handsome columns with Corinthian capitals. Internally the building has been finished in an up-to-date manner. Three fast electric elevators of the latest type are installed, and large light-areas give ample illumination to all rooms. The corridors are brightened by the use of polished marble. Transom lights throughout the building materially assist the fine lighting arrangements. The architects were Robertson & Marks and the builders J. C. Harrison & Son. The wisdom of providing for the future as well as the present requirements of the growing business is apparent, and gives evidence of confidence in the stability of Australia and of its continued progress—which all far-sighted citizens recognise as likely to be maintained.

At its inception the operations of the Mercantile Mutual Insurance Company were confined to New South Wales. But in 1901 the directors decided to extend their operations to the neighbouring States and in that year a branch was opened at 9 Queen Street, Melbourne. A few years later the Company acquired the present pre-

mises at 1 Queen Street, Melbourne, as the Victorian Headquarters, valued, with remodelling, at £25,000.

The first Victorian Directors to be appointed were R. J. Alcock, J.P., head of the firm of James Service & Co., and J. M. Gillespie, O.B.E., chairman of the Freehold Assets Company. Both of these gentlemen were well known in business, public, and philanthropic work in Melbourne for many years. Later they were joined in the directorate by W. J. S. Eaves, of McLaughlin, Eaves & Johnson, solicitors, and by A. L. Wettenhall, of Parkinson & Wettenhall, solicitors. R. W. Heggie is the local manager and A. J. Loughnan the resident secretary. Both these officers have many years of fine service to their credit.

In August 1912 a branch was opened in Queensland. The first offices were established at 377 Queen Street, Brisbane. They were found to be too small for the quickly increasing business, and, an opportunity occurring to make a sale at a satisfactory price, the Company purchased the present commodious premises at Eagle Street, which cost, with re-modelling, £29,640.

The Queensland directors of the Mercantile Mutual Insurance Company are W. Hamilton Hart, of the firm of Flower & Hart, solicitors, and Robert Willis Taylor, of the firm of Taylor & Elliott. J. G. Milne is the local manager, appointed from Head Office, where he served for many years.

In 1920 it was decided to open business in North Queensland, and a branch was established at Flinders Street, Townsville, in the premises of Bartlams, Ltd. J. J. Kelleher, the manager of that firm represents the Mercantile Mutual Insurance Company, assisted by a trained staff. J. C. Deacon is resident secretary. Later in the same year there was a further expansion of the business in North Queensland, a branch being opened

at Cairns under the control of the manager of the Estate of H. S. Williams, Ltd., the present chief agents for the Company in Cairns.

The South Australian business of the Company was established in Adelaide in September 1917. The first South Australian offices were situated at the corner of King William and Pirie Streets, Adelaide. The present premises, at the corner of Pirie Street and Coromandel Place, were recently purchased at a cost, including re-modelling, of £22,441.

The directors of the South Australian branch are Napier K. Birks and F. E. Cornish, of Charles Birks & Co., Ltd., and Norman Jackson, of A. R. B. Lucas & Co. The local manager is W. H. Sheppard, also a Head Office man with many years' service to his credit.

During November 1919 the Tasmanian business of the Mercantile Mutual Insurance Company was established, and branches were opened at Hobart and Launceston. The Hobart branch was first established at 113-115 Macquarie Street. Later, to meet the growing demands, the present offices, situated at 105 Macquarie Street, were purchased, considerable additions and re-modellings being necessary, at a total cost of £12,459. Robert Nettelfold is chairman and local director and Ross Wilkins—appointed first as inspector—is local manager of the Tasmanian business. Northern Tasmanian interests are looked after by the Launceston branch, situated at 60 Cameron Street, under the control of W. H. Hart & Co., acting as chief agents for the Northern District of Tasmania.

The Western Australian Branch of the Company was opened during April 1920. It is now situated at 9 Barrack Street, Perth. H. J. Wigmore & Co. are the chief representatives and the local manager is W. Chas. Taylor.

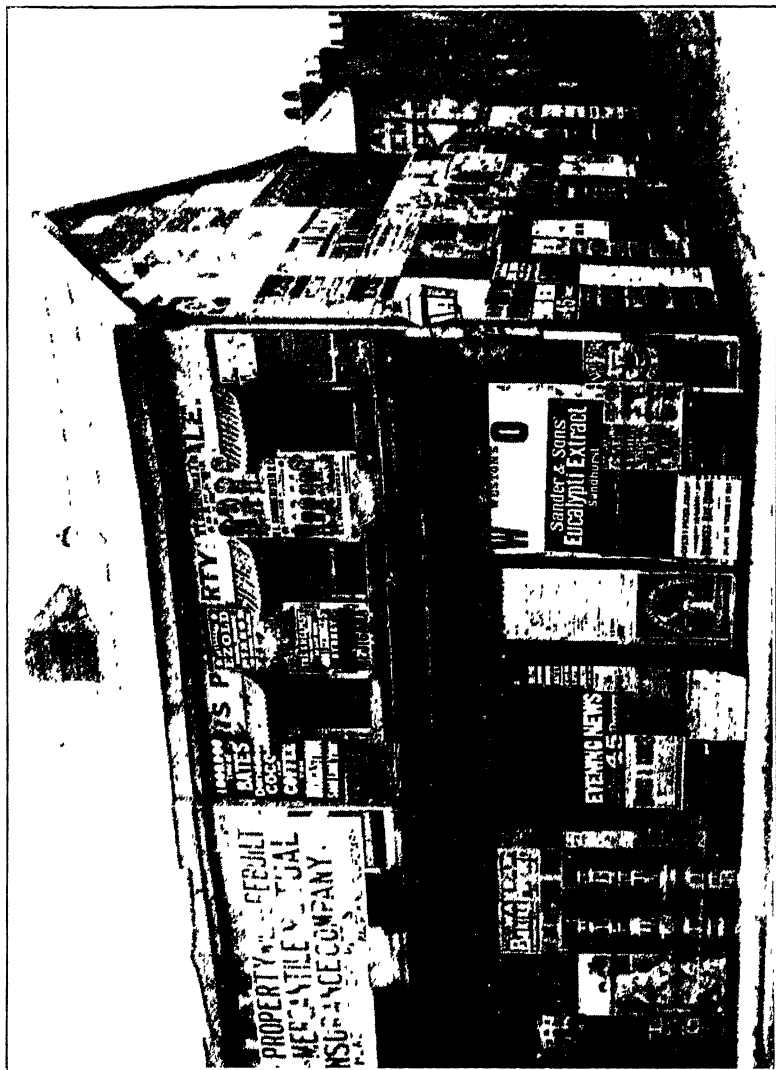
All the above-mentioned local directors, executive officers, and their staffs have been untiring in their efforts to assist the development of the business at their respective branches.

To-day the Mercantile Mutual Insurance Company Limited has agents in every city and township in Australia, and also representatives in most parts of the world. The big Company of to-day has grown, during fifty years, from the two little rooms at 168 Pitt Street, Sydney, where operations were commenced. At first the business handled was chiefly fire insurance, but, to keep pace with the growth of the Commonwealth, the Company launched out into other classes of insurance, and to-day its activities embrace all forms except life.

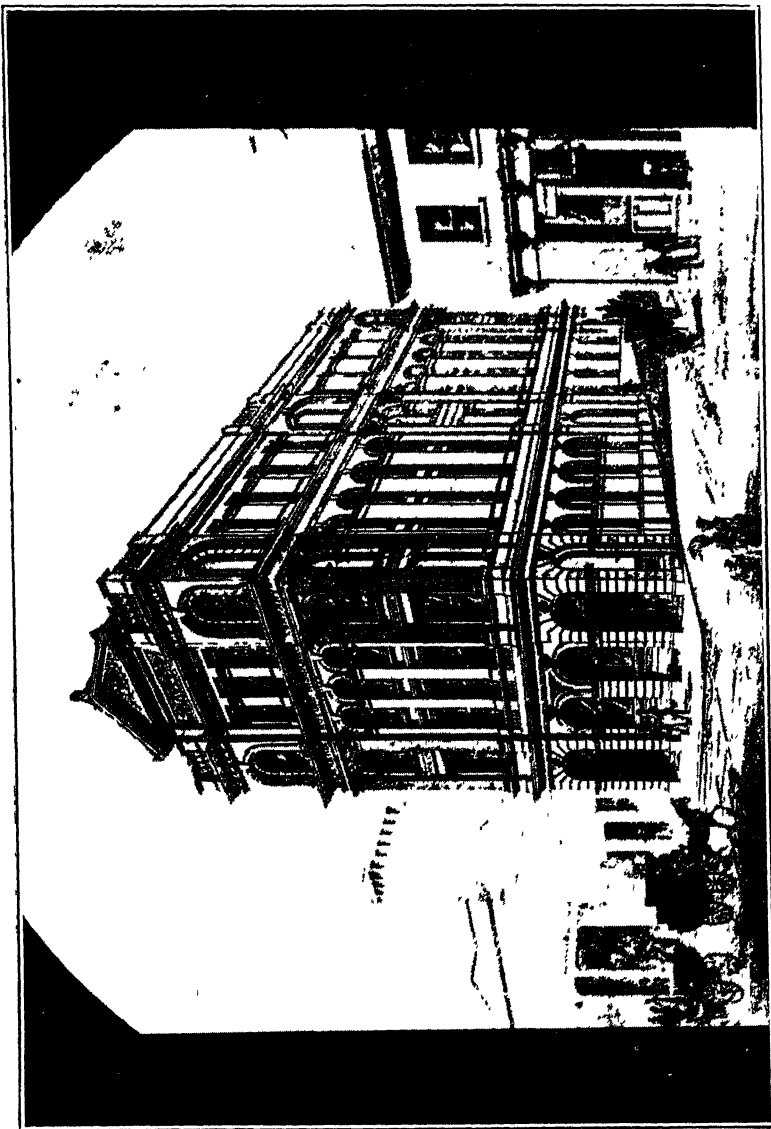
This progressive Company has been exceptionally fortunate in the selection of its directors. The present board are C. C. Gale (chairman), J. M. Atkinson, T. J. Marks, L. J. Davies, and J. Hunter Stephenson, supported by Kelso King, managing director and chief executive officer for fifty years, Selwyn King, manager—with 36 years of service with the Company—and Alan Blake, secretary, with 25 years' service to his credit. Much of the success is due to the wise policy laid down by the directors and management, supported by a loyal and capable staff, many of whom have been almost a lifetime with the Company.

Looking backwards, it cannot be doubted that the founders of the Mercantile Mutual Insurance Company were men of vision and enterprise, but it is doubtful if they were aware of the very important step they took when they decided on the establishment of the little office that has grown to be one of Australia's leading Insurance Companies. Had any citizen of 1878 the imagination to foretell that within fifty years Australia would increase her population threefold and hold the important

position she now occupies in the British Empire? Or that Sydney, then the second city of the Commonwealth, would not only rise to first place but would become the second city, in white population, in the Empire? From a review of the past it is certain that even greater progress will come in the future, with all classes working together towards that end.



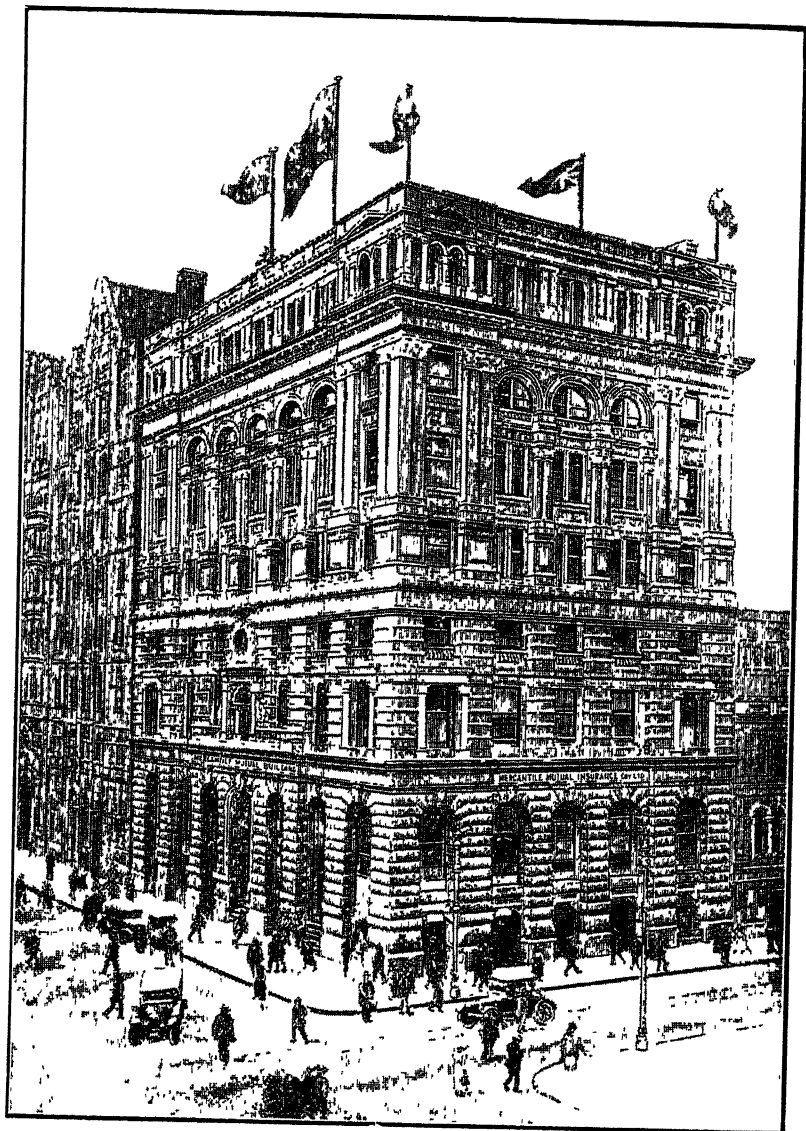
SITE OF HEAD OFFICE, 120 PITT STREET, CORNER OF ROWE STREET ON DATE OF PURCHASE, 1885



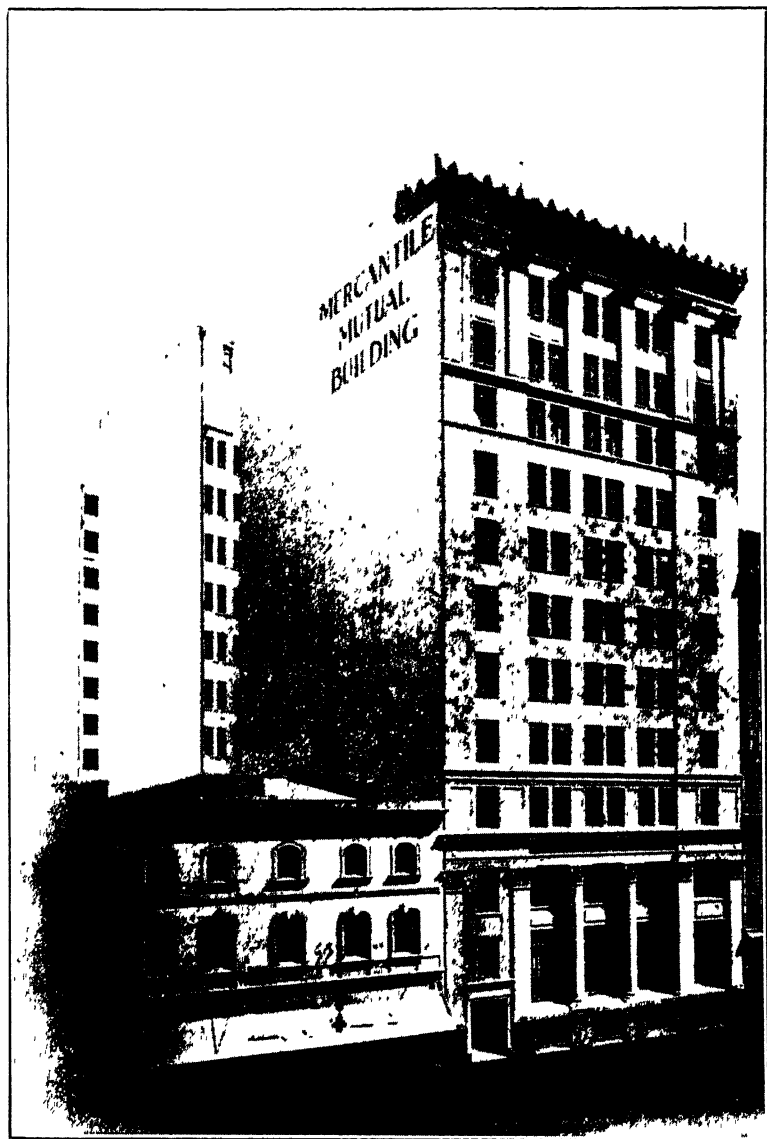
HEAD OFFICE, 120 PITT STREET, 1886-1919



GROUP OF DIRECTORS AND SECRETARY TAKEN ON THE OCCASION
OF THE OPENING OF THE COMPANY'S NEW HEAD OFFICES, 120
PITT STREET IN 1886



HEAD OFFICE, MARTIN PLACE, 1919-1929



THE PRESENT HEAD OFFICE BUILDING, 117 PITT STREET,
SYDNEY

DIRECTORS—PAST AND PRESENT

JOHN POPE (1827-1912)

The first chairman of the Mercantile Mutual Insurance Company (1878-86). Born in England, 1st October, 1827. Attracted by the excitement of gold-discovery in Australia, he arrived in Melbourne on 4th October, 1852. After spending some time at Ballarat he came to Sydney in 1856, joining the firm of Farmer, Williams, & Giles, and was subsequently admitted to full partnership, the title of the firm being altered to Farmer, Painter & Pope, and more recently to Farmer & Company. He retained his seat on the board of the Mercantile Mutual Insurance Company until his death in 1912.

Mr Pope was a man of sound judgment, with force of character and a deep conviction of the importance of his responsibilities. His enthusiasm in all his work gave an inspiration to those associated with him in business and other affairs.



JOHN POPE

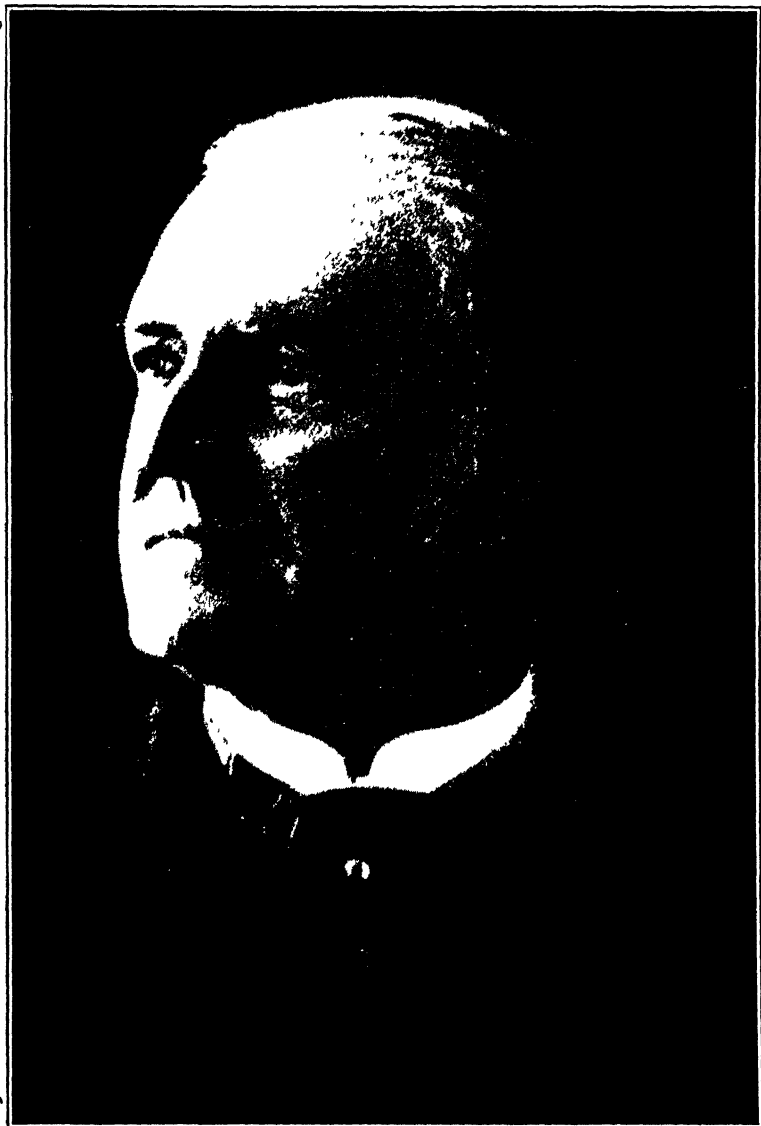
GEORGE ALLAN MANSFIELD (1834-1908)

Deputy-Chairman of the Mercantile Mutual Insurance Company from 1878 to 1886, when he was appointed Chairman on the retirement of John Pope.

In conjunction with the late A. H. McCulloch and George Hardie, he founded the Company and was most helpful in laying its foundations on a basis of permanency.

Born in Sydney, 15th June, 1834. Was articled to Mr. Hilly, architect, in 1851 and subsequently accepted a partnership with him. Later he joined his brother in the firm of Mansfield Bros. This firm was afterwards altered to Mansfield & Son.

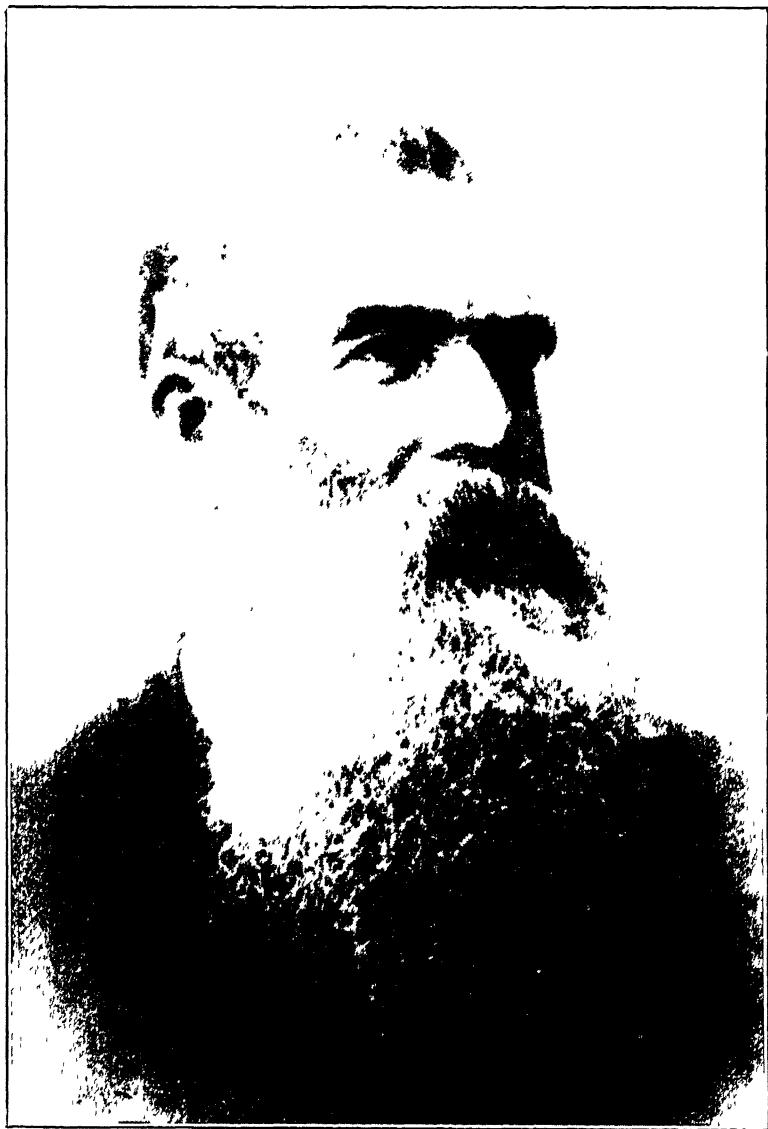
Mr. Mansfield had an extensive practice as an architect and played an important part in rebuilding Sydney, besides designing and erecting many bank buildings and residences throughout the country. He was the foremost Sydney architect, and achieved his success by unceasing labour, vigilance, and devotion to the work entrusted to him, combined with outstanding ability.



GEORGE ALLAN MANSFIELD

WILLIAM HENRY PALING

One of the first directors the Mercantile Mutual Insurance Co. elected in 1878. Arrived at Sydney in 1853 and shortly afterwards founded the business conducted under the name of W. H. Paling and Co., Limited. A man of sterling character, he was associated with many important enterprises connected with the progress and development of Australia. His generosity and philanthropy were unbounded. The founding and endowment of the Carrington Convalescent Hospital is one of his charitable works which will perpetuate the memory of a fine citizen.



WILLIAM HENRY PALING

GEORGE HARDIE (1846-1918)

Was a Director of the Mercantile Mutual Insurance Company from January 1878 to January 1888. In association with G. A. Mansfield and A. H. McCulloch he founded the Company.

He was born in 1846 at the Navigator Islands and arrived in Australia in 1866, settling in Sydney. He was senior partner in the firm of Hardie & Gorman, Real Estate Agents and Auctioneers.

Mr. Hardie returned to England in 1888 and died in 1918. He was a man of sound judgment, a striking personality and possessed wonderful initiative.



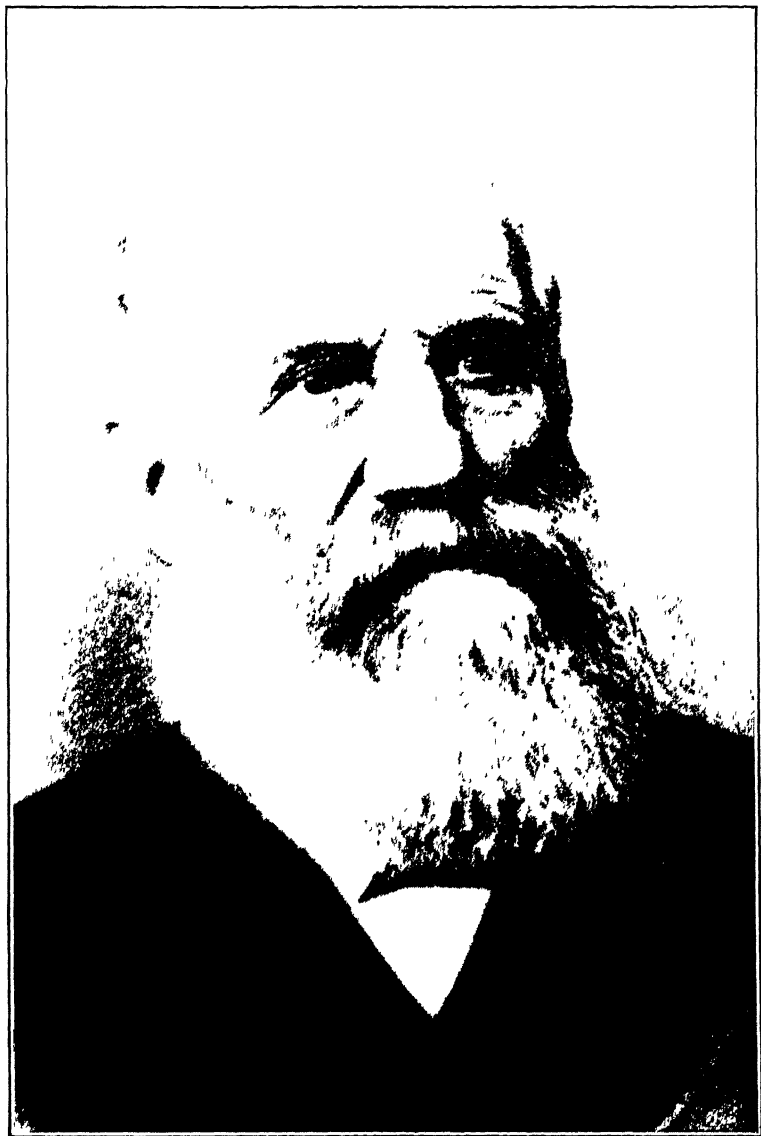
GEORGE HARDIE

CAPTAIN JOHN BROOMFIELD (1822-1903)

Was appointed a Director of the Mercantile Mutual Insurance Company from the date of its incorporation, 1878, until 1902, when he resigned through ill-health.

Captain Broomfield was born in England on 24th May, 1822, and settled in Sydney in 1849, founding the business of John Broomfield & Company in 1851. He was a director of Mort's Dock and Engineering Company from its formation until 1902, and also of the Fresh Food and Ice Company. He was also a member of the Marine Board from the date of its incorporation until it was superseded by the Admiralty Court. He died on 22nd August, 1903.

He was a man of striking personality and force of character, and by genuineness of sympathy inspired his colleagues with confidence and encouragement.



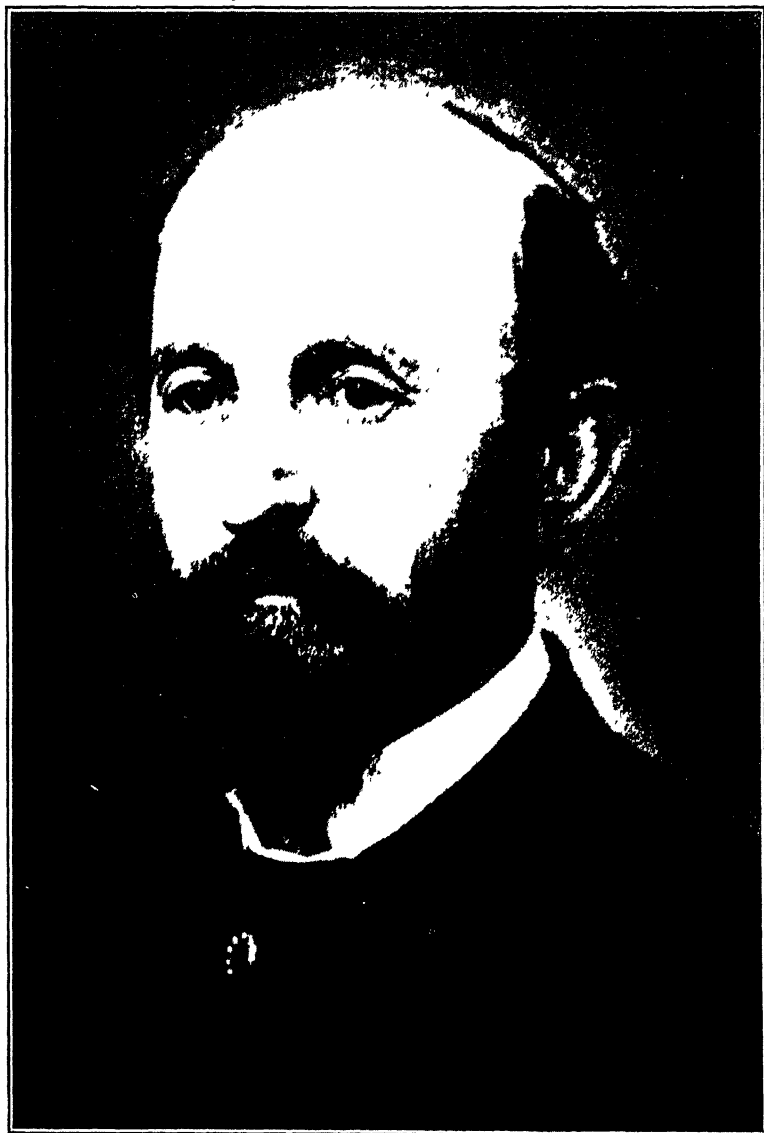
CAPTAIN JOHN BROOMFIELD

CHARLES CARLETON SKARRATT (1824-1900)

An original shareholder in the Mercantile Mutual Insurance Company. Director from August 1878, resigned April 1881, prior to leaving for England.

Born in England on the 18th April, 1824, Mr. Skarratt arrived in Melbourne in 1853, having been attracted to Australia by the discovery of gold on the continent. He was in business in Victoria and New South Wales until 1875 and was a director of several important companies, including the Mount Morgan Gold-Mining Company. He finally returned to England in 1893, and died in London, 23rd November, 1900.

Mr. Skarratt was a man of striking personality and achieved success in his affairs through intelligent devotion to business. A fine sportsman, he won the esteem of his fellow-men and gave evidence of generous consideration for others.

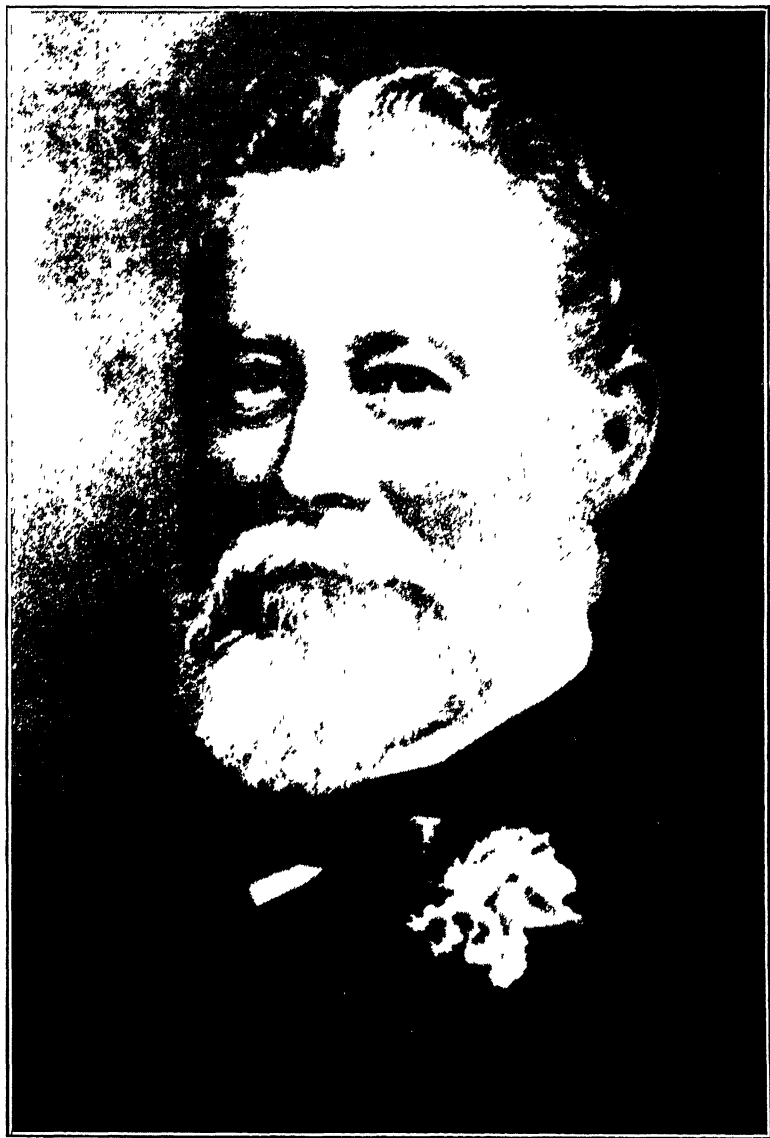


CHARLES CARLETON SKARRATT

RUSSELL BARTON (1830-1916)

Mr Russell Barton was elected a Director of the Mercantile Mutual Insurance Company in June 1881 and became chairman of the Company in 1904. He resigned the chairmanship in 1911 and retired from the board of the Company in 1913 through ill-health.

Representing Bourke in the New South Wales Parliament for six years (1881-86), Russell Barton's interests were mainly pastoral and mining. He won the esteem of his fellow-men by application of the highest principles to his business affairs and to his political career. He was a director of many companies, including the famous Great Cobar Copper Company, and was Vice-President of the Water Conservation Commission.



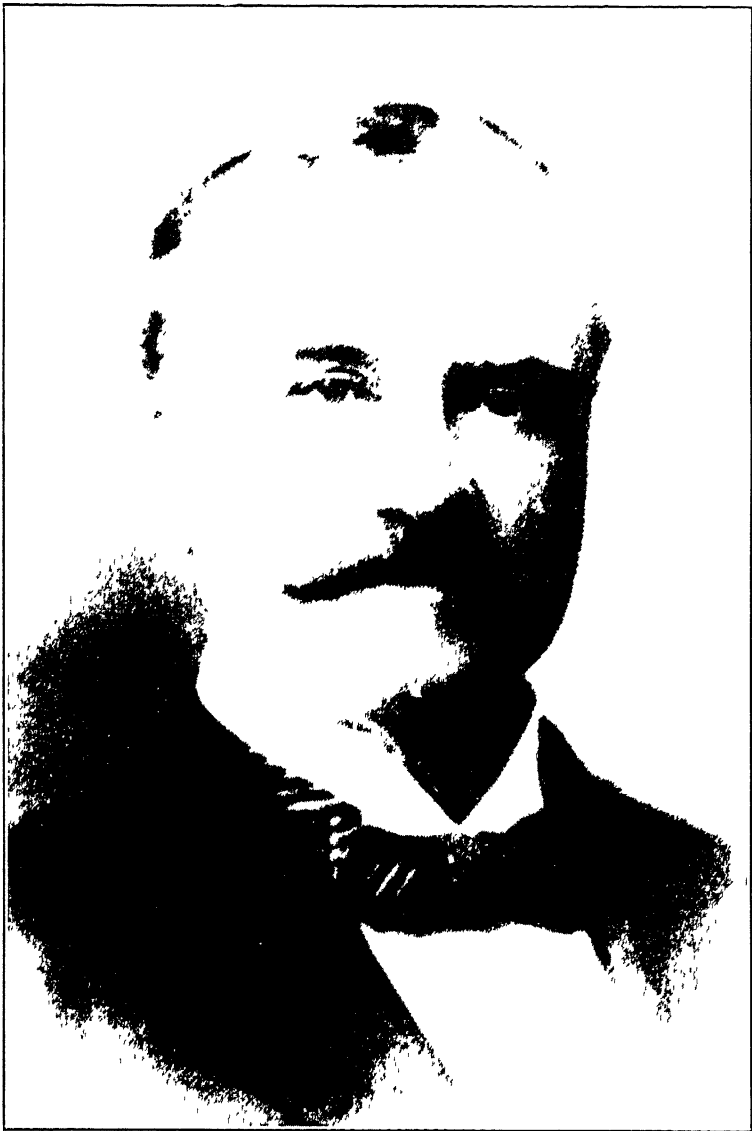
RUSSELL BARTON

THE HON. W. J. TRICKETT, M.L.C. (1843-1916)

Was elected a director of the Mercantile Mutual Insurance Company in 1886 and was chairman from 1911 until his death in July 1916.

Mr. Trickett was born at Gibraltar on 2nd September, 1843, and arrived in Sydney in 1853. He was educated at the Sydney Grammar School, and was admitted a solicitor at the age of 22, shortly afterwards entering into partnership with the Hon. W. H. Pigott, M.L.C. He served as Alderman and Mayor of Woollahra over a period of 33 years and was Member for Paddington in the N.S.W. Assembly for eight years (1880-88), resigning on his appointment to the Legislative Council.

Mr. Trickett held the office of Postmaster General and Minister for Public Instruction in the Stuart Ministry of New South Wales (1883-85). He was a Trustee of the National Art Gallery, Vice-President of the Sydney Grammar School, and Trustee of the Sydney Cricket Ground, in addition to holding other important positions which constituted him a useful citizen; always active in work connected with the advancement of the State and the improvement of the condition of its people.



THE HON W J TRICKETT, MLC

WALTER RUSSELL HALL

An original shareholder of the Mercantile Mutual Insurance Co.; was a director from 1902 to 1911. He was born at Kington, in Herefordshire, England, and arrived in Sydney during 1852. He went to Victoria, attracted by the gold discovery, subsequently became a partner in Cobb & Company, and settled in Sydney. In 1884 he became interested in the Mount Morgan Gold Mining Company, and retired from Cobb and Co. in 1886, was interested in various industries. He was a director of the Electrolytic Refining and Smelting Company, the Sydney Meat Preserving Company, and a member of the Committee of the Australian Jockey Club. He died on 13th October 1911.

Mr. Hall was a man of sound judgment and strongly marked personality; remarkably gifted as a judge of character, and in recognising the qualifications of those associated with him in business affairs. In matters of a charitable nature he was liberal, and as a citizen he recognised and discharged his obligations and his responsibilities to the Empire. The "Walter and Eliza Hall" Trust was founded by his widow.



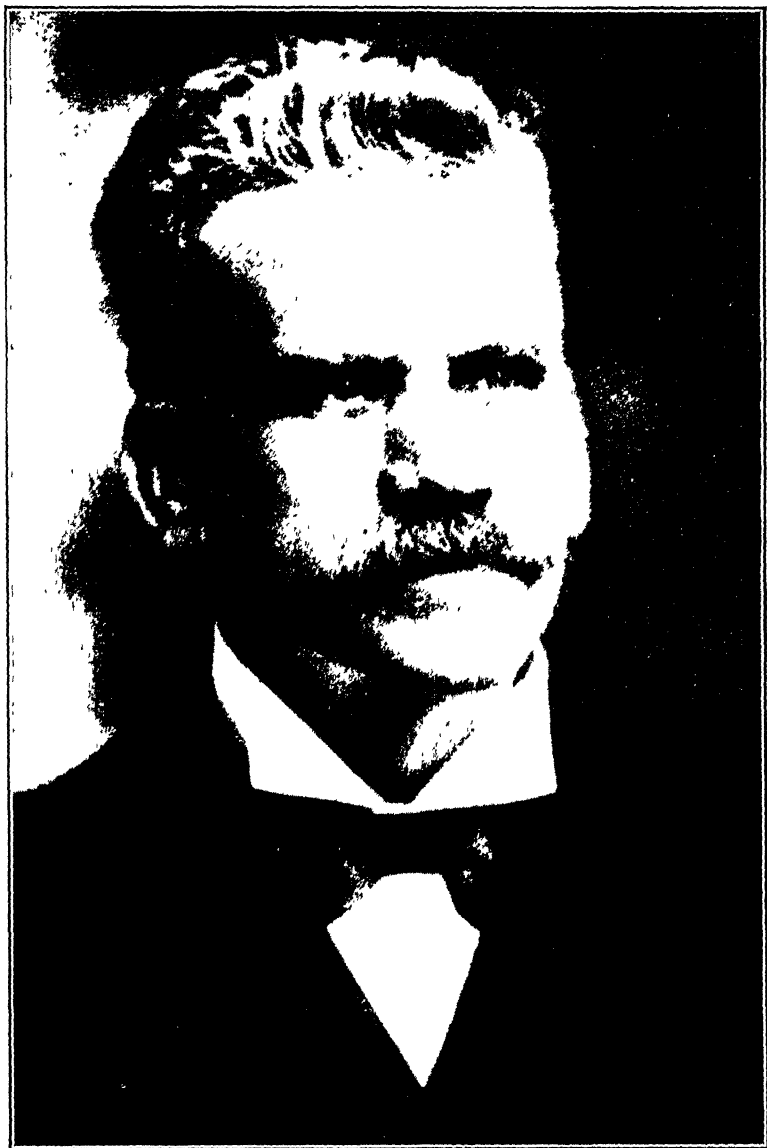
WALTER RUSSELL HALL

BERNARD McBRIDE (1847-1920)

Mr. McBride was an original shareholder of the Mercantile Mutual Insurance Company, and was a director from August 1905 until his death on 7th February, 1920.

Born in Donegal, Ireland, on 6th February, 1847, Mr. McBride arrived in Sydney in 1864. For some years he was on the staff of Christopher Newton & Company, and then went into business on his own account. He resided at Hunter's Hill, and took a keen interest in the borough as an alderman, serving as Mayor for several years. He was a member of the Council of the National Defence Association of Australia and did much towards introducing the Defence Act to this country.

Mr McBride was a shrewd business man, possessed of a deep conviction of his responsibilities and obligations to the country. He won the affection of his fellow men by the practice of the higher principles in all his affairs and by his sympathetic nature.

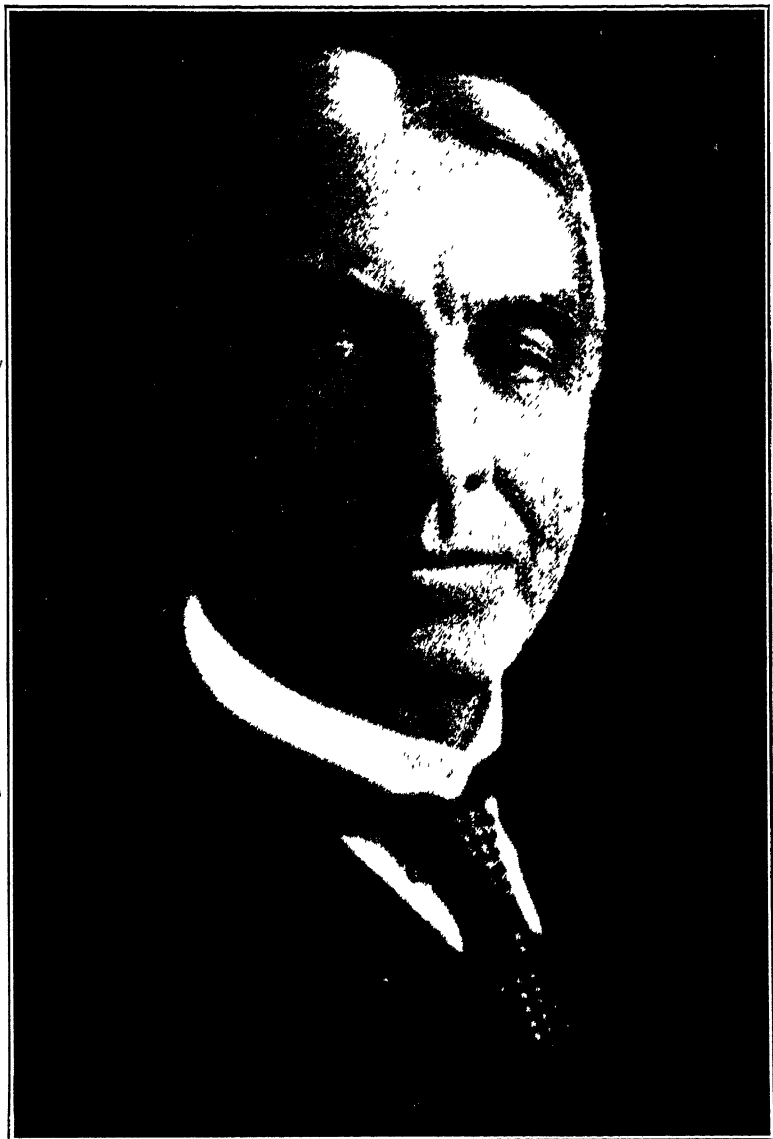


BERNARD McBRIDE

CHARLES CLARENCE GALE.

Was elected director of the Mercantile Mutual Insurance Company, in 1912, and became chairman of directors in 1928.

Mr Gale was born in the Clarence River District and educated at Fort Street and Blackmore's schools. He was articled to the late Septimus A. Stephen and commenced practice as solicitor at Moss Vale in 1879. With his son, L. R. Gale, he founded the firm of Gale & Gale, Solicitors, Sydney. He has been a director of the Australian General Insurance Company from the date of its formation and was elected its chairman in April 1928.



CHARLES CLARENCE GALE

JOHN MESSMAN ATKINSON, J.P.

Was born in April 1851 in Madras, India, where his father, Major-General E. H. Atkinson, of the 19th M.N.I., was at that time quartered. Educated at Wellington Military College, Berkshire, England, he entered the establishment of William Sentance, Tea Broker.

Attracted to Australia, he arrived in Sydney in 1872, and at once entered heartily into station life with his brother-in-law, P. H. Osborne, at "Currandooley." He became manager, and continued in that capacity until 1880, when he entered into partnership with Hy. Hill Osborne, as joint-owner of "Thorndale" station, a leasehold property of 150,000 acres.

For about four years he was president of the Stock-Owners' Association and also a member of the council of the Pastoralists' Union for over a quarter of a century.

In 1913 he was elected a Director of the Mercantile Mutual Insurance Co.

He acted as Honorary Secretary to the New South Wales Bushmen's Contingent Fund raised for the dispatch of the Bushmen's Contingent to take part in the South African War.

He has also taken an active part for some years in the "Big Brother" movement, which has been instrumental in bringing so many promising youths as immigrants to this country.



JOHN MESSMAN ATKINSON, J P

THEODORE J. MARKS.

Mr. Marks was born at Jamberoo in the Illawarra district in 1865. He was educated at the Sydney Grammar School and afterwards served his articles under the late G Allan Mansfield, one of the original directors of the Mercantile Mutual. He then studied architecture for two years in different countries before commencing the practice of his profession in Sydney in partnership with the late Mr. Robertson. He was elected as a Director of the Mercantile Mutual in 1916.

Mr Marks is a keen sportsman, and has designed many of the stands and buildings at the principal race-courses in Sydney, Melbourne, and Bombay. He has also designed many fine buildings in Sydney, including the new Head Office of the Bank of New South Wales, and the present Head Office of the Mercantile Mutual, both of which have added to the architectural beauty of Sydney.

He has been Honorary Architect to the Sydney Hospital and also the South Sydney Hospital for some thirteen years, during which time these very necessary Institutions have had the benefit of his expert knowledge and assistance in the interests of humanity.



THEODORE J MARKS

J. HUNTER STEPHENSON

Mr. J. Hunter Stephenson was born at Redfern, educated at a private school at Newtown, and subsequently at the University of Sydney, where he graduated in Arts. He was articled to the late James C. Taylor, Public Accountant, on whose death he succeeded to that practice.

He was elected a director of the Australian General Insurance Co. on 29th July, 1920, and of the Mercantile Mutual Insurance Co. on 21st June, 1928

Mr. Stephenson took an active part in the work of the British Immigration League, representing the Army and Navy Immigration League and kindred bodies, which brought out over 5000 men and settled them on the land. He has also taken an active interest in the "Big Brother" movement, by which similar good work is being done.

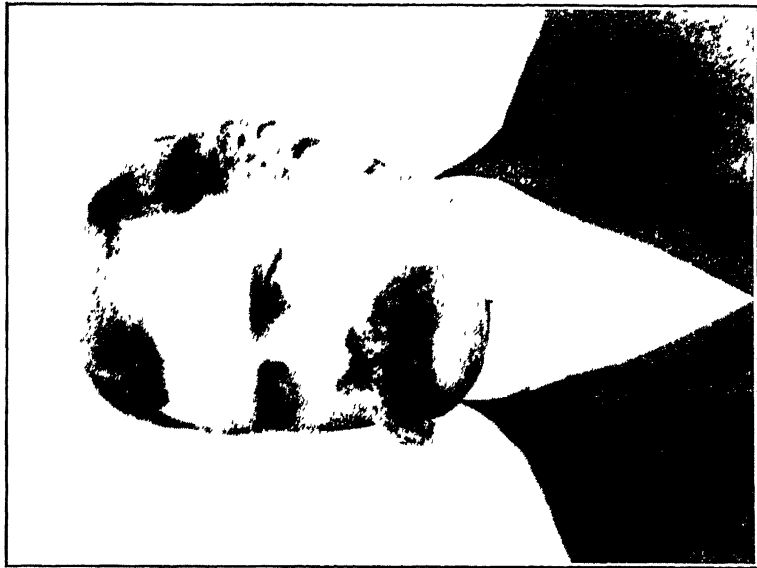


J HUNTER STEPHENSON



SIR KELSO KING, KB

Managing Director, Chief Executive Officer from inception of Company



R W THALLON
Appointed to the service 1878 Secretary in 1899-1915



E W GREGORY
Appointed to the service 1878 Secretary 1915-1925



GROUP OF STAFF OF HEAD OFFICE AND BRANCHES OF THE MERCANTILE MUTUAL
INSURANCE CO WHO SERVED IN THE GREAT WAR

ROLL OF HONOUR

1914 - 1918

ANDERSON	RW.	FERGUSON	CAPT. TA.	MOORE	B.R.
AYLWARD	C.R.	*FORBES	N.M.C.L.	*NORMAN	J.L.
BARKER	CAPT. JP. OBE	FORSYTH	K.H.	PICOT	F.
BARNETT	P.J.	*GREEN	E.W.	PLANE	A.A.
*BENSON	LIEUT. E.C.	HOGARTH	D.E.	REID	H.S.
BLAKE	ALAN	HOOK	N.H.	RENWICK	G.E.
BOISSIER	W.	*KEMP	P.S.K.	RUBIE	O.J.
BOLGER	L.J.	KENNEDY	G.L.	SHEPPARD	CAPT. W.H.S.
BOND	W.J.	KING	Lt. Col. SELWYN.	SHORT	LIEUT. L.
*BUSKIN	LIEUT. A.F.	DJO VD.		SNOW	A.G.
CALF	E.E. MM*	MACAULEY	E.W.	TAYLOR	F.G.
CLARKE	C.W.	MADDEN	A.J.	THALLON	F.E.
CRAPP	R.D. MM	MAITLAND	A.C.	THALLON	R.E.
DAY	G.E.	METCALF	A.C.	TIEBETT	J.G.
FEARNSIDE	H.P.	MIDDENWAY	*F.	WILKINS	ROSS
	* KILLED IN ACTION	ACTION		BAN	

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